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Leu Arg Ile Ile Val Leu Ile Ala Ser Leu Val Val Leu Pro Tyr \$410\$ \$420\$

Leu Gly Val His Gly Ala Thr Leu Gly Val Gly Ser Leu Leu Ala 425 430 435

Gly Phe Val Gly Glu Ser Thr Met Val Ala Ile Ala Ala Cys Tyr 440 445 450

Val Tyr Arg Lys Gln Lys Lys Lys Met Glu Asn Glu Ser Ala Thr \$455\$

Glu Gly Glu Asp Ser Ala Met Thr Asp Met Pro Pro Thr Glu Glu 470 475 480

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<223> unknown base

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<211> 457

<212> PRT

<213> Homo sapiens

<400> 19

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Leu Phe Leu Gly Val Leu Val Ser Ile Ile Met Leu Ser Pro Gly 50 55 60

Val Glu Ser Gln Leu Tyr Lys Leu Pro Trp Val Cys Glu Glu Gly Ala Gly Ile Pro Thr Val Leu Gln Gly His Ile Asp Cys Gly Ser Leu Leu Gly Tyr Arg Ala Val Tyr Arg Met Cys Phe Ala Thr Ala Ala Phe Phe Phe Phe Phe Thr Leu Leu Met Leu Cys Val Ser 120 110 Ser Ser Arg Asp Pro Arg Ala Ala Ile Gln Asn Gly Phe Trp Phe 125 Phe Lys Phe Leu Ile Leu Val Gly Leu Thr Val Gly Ala Phe Tyr 140 Ile Pro Asp Gly Ser Phe Thr Asn Ile Trp Phe Tyr Phe Gly Val 155 Val Gly Ser Phe Leu Phe Ile Leu Ile Gln Leu Val Leu Leu Ile 180 170 Asp Phe Ala His Ser Trp Asn Gln Arg Trp Leu Gly Lys Ala Glu 185 Glu Cys Asp Ser Arg Ala Trp Tyr Ala Gly Leu Phe Phe Phe Thr 210 200 Leu Leu Phe Tyr Leu Leu Ser Ile Ala Ala Val Ala Leu Met Phe 215 Met Tyr Tyr Thr Glu Pro Ser Gly Cys His Glu Gly Lys Val Phe 230 Ile Ser Leu Asn Leu Thr Phe Cys Val Cys Val Ser Ile Ala Ala 245 Val Leu Pro Lys Val Gln Asp Ala Gln Pro Asn Ser Gly Leu Leu 270 265 260 Gln Ala Ser Val Ile Thr Leu Tyr Thr Met Phe Val Thr Trp Ser 280 275 Ala Leu Ser Ser Ile Pro Glu Gln Lys Cys Asn Pro His Leu Pro 300 290 Thr Gln Leu Gly Asn Glu Thr Val Val Ala Gly Pro Glu Gly Tyr 305 Glu Thr Gln Trp Trp Asp Ala Pro Ser Ile Val Gly Leu Ile Ile 325 320 Phe Leu Leu Cys Thr Leu Phe Ile Ser Leu Arg Ser Ser Asp His 340 335 Arg Gln Val Asn Ser Leu Met Gln Thr Glu Glu Cys Pro Pro Met

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<211> 285

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Pro Glu Pro Tyr Tyr Pro Glu Ser Gly Trp Asp Arg Leu Arg Glu
Leu Phe Gly Lys Asp Glu Gln Gln Arg Ile Ser Lys Asp Leu Ala
Asn Ile Cys Lys Thr Ala Ala Thr Ala Gly Ile Ile Gly Trp Val
Tyr Gly Gly Ile Pro Ala Phe Ile His Ala Lys Gln Gln Tyr Ile
Glu Gln Ser Gln Ala Glu Ile Tyr His Asn Arg Phe Asp Ala Val
                                                         120
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Gln Ser Ala His Arg Ala Ala Thr Arg Gly Phe Ile Arg Tyr Gly
                125
Trp Arg Trp Gly Trp Arg Thr Ala Val Phe Val Thr Ile Phe Asn
                 140
Thr Val Asn Thr Ser Leu Asn Val Tyr Arg Asn Lys Asp Ala Leu
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Ser His Phe Val Ile Ala Gly Ala Val Thr Gly Ser Leu Phe Arg
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Ile Asn Val Gly Leu Arg Gly Leu Val Ala Gly Gly Ile Ile Gly
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Lys Ala Leu His Glu Leu Lys Leu Glu Glu Trp Lys Gly Arg Leu
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<213> Homo sapiens

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    Phe Phe Tyr Met Ile Ile Leu Leu Leu Val Phe Ile Val Gln Phe
                     80
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                                         100
    Gln Leu Leu Glu Val Gly Trp Asn Asn Thr Ala Ser Ala Arg Asn
                                         115
                                                             120
                    110
   Asp Ile Gln Arg Asn Leu Asn Cys Cys Gly Phe Arg Ser Val Asn
                                         130
                    125
    Pro Asn Asp Thr Cys Leu Ala Ser Cys Val Lys Ser Asp His Ser
                                         145
                                                             150
                    140
Cys Ser Pro Cys Ala Pro Ile Ile Gly Glu Tyr Ala Gly Glu Val
ļ.
                    155
                                         160
Leu Arg Phe Val Gly Gly Ile Gly Leu Phe Phe Ser Phe Thr Glu
M
                    170
Ile Leu Gly Val Trp Leu Thr Tyr Arg Tyr Arg Asn Gln Lys Asp
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I.M
a Head
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Cys His Thr Glu Asp Asp Leu Thr Asp Ala Arg Glu Ala Gly Phe 50~ 55~ 60~

Gln Val Lys Ala Tyr Thr Phe Ser Glu Pro Phe His Leu Ile Val 65 70 75

Ser Tyr Asp Trp Leu Ile Leu Gln Gly Pro Ala Lys Pro Val Phe 80 85 90

Glu Gly Asp Leu Leu Val Leu Arg Cys Gln Ala Trp Gln Asp Trp 95 100 105

Pro Leu Thr Gln Val Thr Phe Tyr Arg Asp Gly Ser Ala Leu Gly
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Ala Asp Ser Gly His Tyr His Cys Ser Gly Ile Phe Gln Ser Pro 140 145 150

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Pro Glu Glu Ala Pro Gly Pro Leu Pro Pro Pro Pro Thr Pro Ser
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Ser Glu Asp Pro Gly Phe Ser Ser Pro Leu Gly Met Pro Asp Pro
His Leu Tyr His Gln Met Gly Leu Leu Leu Lys His Met Gln Asp
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His Ile Gln Gln Ala Lys Tyr Gln Gly Arg Leu His Val Ser His

Lys Val Pro Gly Asp Val Ser Leu Gln Leu Ser Thr Leu Glu Met

Asp Asp Arg Ser His Tyr Thr Cys Glu Val Thr Trp Gln Thr Pro

Asp Gly Asn Gln Val Val Arg Asp Lys Ile Thr Glu Leu Arg Val

Gln Lys Leu Ser Val Ser Lys Pro Thr Val Thr Thr Gly Ser Gly

Tyr Gly Phe Thr Val Pro Gln Gly Met Arg Ile Ser Leu Gln Cys

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   Thr Val Lys Gln Ser Trp Asp Trp Thr Thr Asp Met Asp Gly Tyr
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Lys Cys Glu Leu Glu Gly Glu Leu Thr Glu Gly Ser Asp Leu Thr

Leu Gln Cys Glu Ser Ser Ser Gly Thr Glu Pro Ile Val Tyr Tyr

Trp Gln Arg Ile Arg Glu Lys Glu Gly Glu Asp Glu Arg Leu Pro

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   Gln Tyr Val Gln Ser Ile Gly Met Val Ala Gly Ala Val Thr Gly
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إياءة

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Gln Ser Ala Ala His Phe Val Met Phe Phe Ala Pro Trp Cys Gly 80 85 90

His Cys Gln Arg Leu Gln Pro Thr Trp Asn Asp Leu Gly Asp Lys 95 100 105

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Cys Thr Ala His Ser Asp Val Cys Ser Ala Gln Gly Val Arg Gly 125 130 135

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Gly Ile Arg Glu Thr Glu Glu Lys Phe Tyr Tyr Ile Val Gln Glu 155 160 165

Glu Lys Asn Tyr Arg Glu Ser Leu Thr His Cys Arg Ile Arg Gly 170 175 180

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Ala Asp Tyr Val Ala Lys Ser Gly Phe Phe Arg Val Phe Ile Gly 200 205 210

Val Asn Asp Leu Glu Arg Glu Gly Gln Tyr Met Ser Thr Asp Asn 215 220 225

Thr Pro Leu Gln Asn Tyr Ser Asn Trp Asn Glu Gly Glu Pro Ser 230 235 240

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Thr	Ile	Asn	Tyr	Thr 485	Gly	Gln	Arg	Gly	Ala 490	Val	Gly	Arg	Ala	Ser 495
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Pro	Leu	Gln	Ala	Pro 275	Gly	Arg	Tyr	Phe	Glu 280	His	Tyr	Arg	Ser	Ile 285
Ile	Asn	Ile	Asn	Arg 290	Arg	Arg	Tyr	Ala	Ala 295	Met	Leu	Ser	Cys	Leu 300
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Gln	Pro	Thr	Ala	Gly 335	Gly	Ser	Asn	Trp	Pro 340	Leu	Arg	Gly	Ser	Lys 345
Gly	Thr	Tyr	Trp	Glu 350	Gly	Gly	Ile	Arg	Ala 355	Val	Gly	Phe	Val	His 360
Ser	Pro	Leu	Leu	Lys 365	Asn	Lys	Gly	Thr	Val 370	Cys	Lys	Glu	Leu	Val 375
His	Ile	Thr	Asp	Trp 380	Tyr	Pro	Thr	Leu	Ile 385	Ser	Leu	Ala	Glu	Gly 390
Gln	Ile	Asp	Glu	Asp 395	Ile	Gln	Leu	Asp	Gly 400	Tyr	Asp	Ile	Trp	Glu 405

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   Gln Ala Met Gly Ser Gly Thr Leu Gln Ser Ser Gln Pro Ser Glu
   Cys Ser Thr Gly Asn Cys Leu Gln Glu Ile Leu Ala Thr Ala Thr
                   455
                                                            465
   Gly Ser Pro Leu Ser Leu Ser Ala Thr Trp Asp Arg Thr Gly Gly
                   470
                                       475
   Thr Met Asn Gly Ser Pro Cys Gln Leu Ala Lys Val Tyr Gly Phe
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<sup>&</sup>lt;210> 119

<sup>&</sup>lt;211> 338

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 119

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Val Ala Gly Gly Phe Gly Asn Ala Ala Ser Ala Arg His His Gly Leu Leu Ala Ser Ala Arg Gln Pro Gly Val Cys His Tyr Gly Thr Lys Leu Ala Cys Cys Tyr Gly Trp Arg Arg Asn Ser Lys Gly Val Cys Glu Ala Thr Cys Glu Pro Gly Cys Lys Phe Gly Glu Cys Val Gly Pro Asn Lys Cys Arg Cys Phe Pro Gly Tyr Thr Gly Lys Thr Cys Ser Gln Asp Val Asn Glu Cys Gly Met Lys Pro Arg Pro Cys 105 Gln His Arg Cys Val Asn Thr His Gly Ser Tyr Lys Cys Phe Cys Leu Ser Gly His Met Leu Met Pro Asp Ala Thr Cys Val Asn Ser 125 130 135 Arg Thr Cys Ala Met Ile Asn Cys Gln Tyr Ser Cys Glu Asp Thr Glu Glu Gly Pro Gln Cys Leu Cys Pro Ser Ser Gly Leu Arg Leu 165 Ala Pro Asn Gly Arg Asp Cys Leu Asp Ile Asp Glu Cys Ala Ser 175 Gly Lys Val Ile Cys Pro Tyr Asn Arg Arg Cys Val Asn Thr Phe 190 195 Gly Ser Tyr Tyr Cys Lys Cys His Ile Gly Phe Glu Leu Gln Tyr Ile Ser Gly Arg Tyr Asp Cys Ile Asp Ile Asn Glu Cys Thr Met 220 225 Asp Ser His Thr Cys Ser His His Ala Asn Cys Phe Asn Thr Gln Gly Ser Phe Lys Cys Lys Cys Lys Gln Gly Tyr Lys Gly Asn Gly 250 255 Leu Arg Cys Ser Ala Ile Pro Glu Asn Ser Val Lys Glu Val Leu 265 Arg Ala Pro Gly Thr Ile Lys Asp Arg Ile Lys Lys Leu Leu Ala 280 285 His Lys Asn Ser Met Lys Lys Ala Lys Ile Lys Asn Val Thr 300 Pro Glu Pro Thr Arg Thr Pro Thr Pro Lys Val Asn Leu Gln Pro

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Glu Asn Gly Asn Leu Lys Glu Lys Asp Ile Leu Val Leu Pro Leu
50 55 60

Asp Leu Thr Asp Thr Gly Ser His Glu Ala Ala Thr Lys Ala Val $\phantom{000}65\phantom{000}70\phantom{000}75$ 

Leu Gln Glu Phe Gly Arg Ile Asp Ile Leu Val Asn Asn Gly Gly

Met Ser Gln Arg Ser Leu Cys Met Asp Thr Ser Leu Asp Val Tyr 105

Arg Lys Leu Ile Glu Leu Asn Tyr Leu Gly Thr Val Ser Leu Thr 120

Lys Cys Val Leu Pro His Met Ile Glu Arg Lys Gln Gly Lys Ile 135

Val Thr Val Asn Ser Ile Leu Gly Ile Ile Ser Val Pro Leu Ser 140

Ile Gly Tyr Cys Ala Ser Lys His Ala Leu Arg Gly Phe Phe Asn 165

Gly Leu Arg Thr Glu Leu Ala Thr Tyr Pro Gly Ile Ile Val Ser 180

Asn Ile Cys Pro Gly Pro Val Gln Ser Asn Ile Val Glu Asn Ser 195

Leu Ala Gly Glu Val Thr Lys Thr Ile Gly Asn Asn Gly Asp Gln Ser His Lys Met Thr Thr Ser Arg Cys Val Arg Leu Met Leu Ile

Ser His Lys Met Thr Thr Ser Arg Cys Val Arg Leu Met Leu Ile 215 220 225

Ser Met Ala Asn Asp Leu Lys Glu Val Trp Ile Ser Glu Gln Pro 230 235 240

Phe Leu Leu Val Thr Tyr Leu Trp Gln Tyr Met Pro Thr Trp Ala 245 250 255

Trp Trp Ile Thr Asn Lys Met Gly Lys Lys Arg Ile Glu Asn Phe 260 265 270

Lys Ser Gly Val Asp Ala Asp Ser Ser Tyr Phe Lys Ile Phe Lys 275 280 285

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<212> PRT

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<400> 132

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Arg Lys Val Gln Glu Pro Gln Gly Lys Ala Lys Arg His Gly Asn 55

Thr Val Pro Gly Glu Trp Pro Trp Gln Ala Ser Val Arg Arg Gln 70 65

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Asn	Ser	Trp	Ser	Val 110	Val	Leu	Gly	Ser	Leu 115	Gln	Arg	Glu	Gly	Leu 120
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Arg	Ala	Tyr	Asn	His 140	Tyr	Ser	Gln	Gly	Ser 145	Asp	Leu	Ala	Leu	Leu 150
Gln	Leu	Ala	His	Pro 155	Thr	Thr	His	Thr	Pro 160	Leu	Cys	Leu	Pro	Gln 165
Pro	Ala	His	Arg	Phe 170	Pro	Phe	Gly	Ala	Ser 175	Cys	Trp	Ala	Thr	Gly 180
Trp	Asp	Gln	Asp	Thr 185	Ser	Asp	Ala	Pro	Gly 190	Thr	Leu	Arg	Asn	Leu 195
Arg	Leu	Arg	Leu	Ile 200	Ser	Arg	Pro	Thr	Cys 205	Asn	Cys	Ile	Tyr	Asn 210
Gln	Leu	His	Gln	Arg 215	His	Leu	Ser	Asn	Pro 220	Ala	Arg	Pro	Gly	Met 225
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Asp	Ser	Gly	Gly	Pro 245		Leu	Cys	Leu	Glu 250	Pro	Asp	Gly	His	Trp 255
Val	Gln	Ala	Gly	Ile 260	Ile	Ser	Phe	Ala	Ser 265	Ser	Cys	Ala	Gln	Glu 270
Asp	Ala	Pro	Val	Leu 275		Thr	Asn	Thr	Ala 280	Ala	His	Ser	Ser	Trp 285
Leu	Gln	Ala	Arg	Val 290		Gly	Ala	Ala	Phe 295	Leu	Ala	Gln	Ser	Pro 300
Glu	Thr	Pro	Glu	Met 305		: Asp	Glu	ı Asp	Ser 310	Cys	Val	Ala	. Cys	Gly 315
Ser	Leu	ı Arç	Thr	320		Pro	Glr	n Ala	a Gly 325	Ala	Pro	Ser	Pro	330
Pro	Trp	Glu	a Ala	Arc 335		ı Met	His	s Glr	340	Glr.	. Let	ı Ala	суз	345
Gly	/ Ala	a Lei	ı Val	Ser 350		ı Glı	ı Ala	a Val	Leu 355	Thr	Ala	a Ala	n His	360
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<sup>&</sup>lt;220>

<sup>&</sup>lt;222> 233

<sup>&</sup>lt;223> unknown amino acid

<sup>&</sup>lt;400> 137

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Val	l Glr	ı Val	l Pro	Glu 35	Asp	Pro	Val	. Val	Ala 40		ı Val	L Gly	7 Thi	Asp 45
Ala	a Thr	: Leu	ı Cys	Cys 50	Ser	: Phe	e Ser	Pro	Glu 55		Gly	/ Phe	e Sei	Leu 60
Ala	a Gln	Leu	ı Asn	Leu 65	Ile	Trp	Gln	. Leu	Thr 70		Thr	: Lys	Glr	Leu 75
Val	. His	Ser	Phe	Ala 80	Glu	Gly	Gln	Asp	Gln 85		Ser	: Ala	Туг	Ala 90
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Ser	Leu	Arg	Leu	Gln 110	Arg	Val	Arg	Val	Ala 115	Asp	Glu	Gly	Ser	Phe 120
Thr	Cys	Phe	Val	Ser 125	Ile	Arg	Asp	Phe	Gly 130	Ser	Ala	Ala	Val	Ser 135
Leu	Gln	Val	Ala	Ala 140	Pro	Tyr	Ser	Lys	Pro 145	Ser	Met	Thr	Leu	Glu 150
Pro	Asn	Lys	Asp	Leu 155	Arg	Pro	Gly	Asp	Thr 160	Val	Thr	Ile	Thr	Cys 165
	Ser			170					175					180
	Gln			182					190					195
	Asn			200					205					210
Val	Leu	Gly	Ala	Asn 215	Gly	Thr	Tyr	Ser	Cys 220	Leu	Val	Arg	Asn	Pro 225
Val	Leu	Gln	Gln	Asp 230	Ala	His	Xaa	Ser	Val 235	Thr	Ile	Thr	Gly	Gln 240
Pro	Met	Thr	Phe	Pro 245	Pro	Glu	Ala	Leu	Trp 250	Val	Thr	Val	Gly	Leu 255
Ser	Val	Суѕ	Leu	Ile 260	Ala	Leu	Leu	Val	Ala 265	Leu	Ala	Phe	Val	Cys 270
Trp	Arg	Lys	Ile	Lys 275	Gln	Ser	Cys	Glu	Glu 280	Glu	Asn	Ala	Gly	Ala 285
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gagttataga gatacatcta cccttttaat atagcactca tctttcaaga 850
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<213> Homo sapiens

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Val Leu Gln Lys Pro Phe Ile Cys His Arg Lys Thr Lys Gly Gly 35 40 45

Asp Leu Met Leu Val His Tyr Glu Gly Tyr Leu Glu Lys Asp Gly 50 55 60

Ser Leu Phe His Ser Thr His Lys His Asn Asn Gly Gln Pro Ile 65 70 75

Trp Phe Thr Leu Gly Ile Leu Glu Ala Leu Lys Gly Trp Asp Gln 80 85 90

Gly Leu Lys Gly Met Cys Val Gly Glu Lys Arg Lys Leu Ile Ile 95 100 105

Pro Pro Ala Leu Gly Tyr Gly Lys Glu Gly Lys Gly Lys Ile Pro 110 115 120

Pro Glu Ser Thr Leu Ile Phe Asn Ile Asp Leu Leu Glu Ile Arg 125 130 135

Asn Gly Pro Arg Ser His Glu Ser Phe Gln Glu Met Asp Leu Asn 140 145 150

Asp Asp Trp Lys Leu Ser Lys Asp Glu Val Lys Ala Tyr Leu Lys
155 160 165

Lys Glu Phe Glu Lys His Gly Ala Val Val Asn Glu Ser His His 170 175 180

Asp Ala Leu Val Glu Asp Ile Phe Asp Lys Glu Asp Glu Asp Lys 185 190 195

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   cagagatgcc tggctacctc gccctgcctt cagcctcacg gggctcagtc 200
   tctttttctc tttggtgcca ccaggacgga gcatggaggt cacagtacct 250
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Glu Val Thr Val Pro Ala Thr Leu Asn Val Leu Asn Gly Ser Asp 35 40 45

Ala Arg Leu Pro Cys Thr Phe Asn Ser Cys Tyr Thr Val Asn His 50 55 60

Lys Gln Phe Ser Leu Asn Trp Thr Tyr Gln Glu Cys Asn Asn Cys 65 70 75

Ser Glu Glu Met Phe Leu Gln Phe Arg Met Lys Ile Ile Asn Leu 80 85 90

Lys Leu Glu Arg Phe Gln Asp Arg Val Glu Phe Ser Gly Asn Pro 95 100 105

Ser Lys Tyr Asp Val Ser Val Met Leu Arg Asn Val Gln Pro Glu 110 115 120

Asp Glu Gly Ile Tyr Asn Cys Tyr Ile Met Asn Pro Pro Asp Arg 125 130 135

His Arg Gly His Gly Lys Ile His Leu Gln Val Leu Met Glu Glu 140 145 150

Pro Pro Glu Arg Asp Ser Thr Val Ala Val Ile Val Gly Ala Ser 155 160 165

Val Gly Gly Phe Leu Ala Val Val Ile Leu Val Leu Met Val Val 170 175 180

Lys Cys Val Arg Arg Lys Lys Glu Gln Lys Leu Ser Thr Asp Asp 185 190 195

Leu Lys Thr Glu Glu Glu Gly Lys Thr Asp Gly Glu Gly Asn Pro
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Asp Asp Gly Ala Lys 215

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  ttcaagaacc gcgtggaagt ttctcaggga accccagcaa gtacgatgtg 300
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<211> 412

<212> PRT

<213> Artificial

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35 40

Asp Leu Gly Asn Gln Leu Glu Ala Lys Leu Asp Lys Pro Thr Val
50 55 60

Val His Tyr Leu Cys Ser Lys Lys Thr Glu Ser Tyr Phe Thr Ile 65 70 75

Trp Leu Asn Leu Glu Leu Leu Leu Pro Val Ile Ile Asp Cys Trp 80 85 90

Ile Asp Asn Ile Arg Leu Val Tyr Asn Lys Thr Ser Arg Ala Thr
95 100 105

Gln Phe Pro Asp Gly Val Asp Val Arg Val Pro Gly Phe Gly Lys

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Ser	Tyr	Phe	His	Thr 140	Met	Val	Glu	Ser	Leu 145	Val	Gly	Trp	Gly	Tyr 150
Thr	Arg	Gly	Glu	Asp 155	Val	Arg	Gly	Ala	Pro 160	Tyr	Asp	Trp	Arg	Arg 165
Ala	Pro	Asn	Glu	Asn 170	Gly	Pro	Tyr	Phe	Leu 175	Ala	Leu	Arg	Glu	Met 180
Ile	Glu	Glu	Met	Tyr 185	Gln	Leu	Tyr	Gly	Gly 190	Pro	Val	Val	Leu	Val 195
Ala	His	Ser	Met	Gly 200	Asn	Met	Tyr	Thr	Leu 205	Tyr	Phe	Leu	Gln	Arg 210
Gln	Pro	Gln	Ala	Trp 215	Lys	Asp	Lys	Tyr	Ile 220	Arg	Ala	Phe	Val	Ser 225
Leu	Gly	Ala	Pro	Trp 230	Gly	Gly	Val	Ala	Lys 235	Thr	Leu	Arg	Val	Leu 240
Ala	Ser	Gly	Asp	Asn 245	Asn	Arg	Ile	Pro	Val 250	Ile	Gly	Pro	Leu	Lys 255
Ile	Arg	Glu	Gln	Gln 260	Arg	Ser	Ala	Val	Ser 265	Thr	Ser	Trp	Leu	Leu 270
Pro	Tyr	Asn	Tyr	Thr 275	Trp	Ser	Pro	Glu	Lys 280	Val	Phe	Val	Gln	Thr 285
Pro	Thr	Ile	Asn	Tyr 290	Thr	Leu	Arg	Asp	Tyr 295	Arg	Lys	Phe	Phe	Gln 300
Asp	Ile	Gly	Phe	Glu 305	Asp	Gly	Trp	Leu	Met 310	Arg	Gln	Asp	Thr	Glu 315
Gly	Leu	Val	Glu	Ala 320	Thr	Met	Pro	Pro	Gly 325	Val	Gln	Leu	His	Cys 330
Leu	Tyr	Gly	Thr	Gly 335	Val	Pro	Thr	Pro	Asp 340	Ser	Phe	Tyr	Tyr	Glu 345
Ser	Phe	Pro	Asp	Arg 350	Asp	Pro	Lys	Ile	Cys 355	Phe	Gly	Asp	Gly	Asp 360
Gly	Thr	Val	Asn	Leu 365	Lys	Ser	Ala	Leu	Gln 370	Cys	Gln	Ala	Trp	Gln 375
Ser	Arg	Gln	Glu	His 380	Gln	Val	Leu	Leu	Gln 385	Glu	Leu	Pro	Gly	Ser 390
Glu	His	Ile	Glu	Met 395	Leu	Ala	Asn	Ala	Thr 400	Thr	Leu	Ala	Tyr	Leu 405

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210> 161
<211> 1512
  <212> DNA
  <213> Homo sapiens
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   gcggcgcttc ctgacgcagc cgcaggtggt ggcgcgcgc gtgtgcttgg 150
   tcttcgcctt gatcgtgttc tcctgcatct atggtgaggg ctacagcaat 200
   gcccacgagt ctaagcagat gtactgcgtg ttcaaccgca acgaggatgc 250
   ctgccgctat ggcagtgcca tcggggtgct ggccttcctg gcctcggcct 300
   tettettggt ggtcgacgcg tatttccccc agatcagcaa cgccactgac 350
   cgcaagtacc tggtcattgg tgacctgctc ttctcagctc tctggacctt 400
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27

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<210> 162

<211> 224

<212> PRT

<213> Homo sapiens

<400> 162

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 Glu Gly Tyr Ser Asn Ala His Glu Ser Lys Gln Met Tyr Cys Val
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 Phe Asn Arg Asn Glu Asp Ala Cys Arg Tyr Gly Ser Ala Ile Gly
 Val Leu Ala Phe Leu Ala Ser Ala Phe Phe Leu Val Val Asp Ala
                   80
 Tyr Phe Pro Gln Ile Ser Asn Ala Thr Asp Arg Lys Tyr Leu Val
 Ile Gly Asp Leu Leu Phe Ser Ala Leu Trp Thr Phe Leu Trp Phe
                  110
                                                          120
 Val Gly Phe Cys Phe Leu Thr Asn Gln Trp Ala Val Thr Asn Pro
 Lys Asp Val Leu Val Gly Ala Asp Ser Val Arg Ala Ala Ile Thr
                                      145
                                                          150
 Phe Ser Phe Phe Ser Ile Phe Ser Trp Gly Val Leu Ala Ser Leu
 Ala Tyr Gln Arg Tyr Lys Ala Gly Val Asp Asp Phe Ile Gln Asn
                  170
 Tyr Val Asp Pro Thr Pro Asp Pro Asn Thr Ala Tyr Ala Ser Tyr
 Pro Gly Ala Ser Val Asp Asn Tyr Gln Gln Pro Pro Phe Thr Gln
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 Asn Ala Glu Thr Thr Glu Gly Tyr Gln Pro Pro Pro Val Tyr
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<223> Synthetic oligonucleotide probe
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  <210> 166
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4 <220>
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TŲ.
210> 168
<211> 3143
  <212> DNA
  <213> Homo sapiens
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   ctggcgggca gggggacgga ggtgatggcg aggaagcgga gccagagggg 150
   atgttcaagg cctgtgagga ctccaagaga aaagcccggg gctacctccg 200
   cetggtgeec etgtttgtge tgetggeect getegtgetg getteggegg 250
   gggtgctact ctggtatttc ctagggtaca aggcggaggt gatggtcagc 300
   caggtgtact caggcagtct gcgtgtactc aatcgccact tctcccagga 350
   tcttacccgc cgggaatcta gtgccttccg cagtgaaacc qccaaagccc 400
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<sup>&</sup>lt;210> 169

<sup>&</sup>lt;211> 802

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 169

Met Pro Val Ala Glu Ala Pro Gln Val Ala Gly Gly Gln Gly Asp Gly Gly Asp Gly Glu Glu Ala Glu Pro Glu Gly Met Phe Lys Ala Cys Glu Asp Ser Lys Arg Lys Ala Arg Gly Tyr Leu Arg Leu Val Pro Leu Phe Val Leu Leu Ala Leu Leu Val Leu Ala Ser Ala Gly Val Leu Leu Trp Tyr Phe Leu Gly Tyr Lys Ala Glu Val Met Val Ser Gln Val Tyr Ser Gly Ser Leu Arg Val Leu Asn Arg His Phe Ser Gln Asp Leu Thr Arg Arg Glu Ser Ser Ala Phe Arg Ser Glu Thr Ala Lys Ala Gln Lys Met Leu Lys Glu Leu Ile Thr Ser Thr 115 120 Arg Leu Gly Thr Tyr Tyr Asn Ser Ser Ser Val Tyr Ser Phe Gly 130 Glu Gly Pro Leu Thr Cys Phe Phe Trp Phe Ile Leu Gln Ile Pro 145 150 Glu His Arg Arg Leu Met Leu Ser Pro Glu Val Val Gln Ala Leu 160 Leu Val Glu Glu Leu Leu Ser Thr Val Asn Ser Ser Ala Ala Val 180 Pro Tyr Arg Ala Glu Tyr Glu Val Asp Pro Glu Gly Leu Val Ile Leu Glu Ala Ser Val Lys Asp Ile Ala Ala Leu Asn Ser Thr Leu 210 Gly Cys Tyr Arg Tyr Ser Tyr Val Gly Gln Gly Gln Val Leu Arg Leu Lys Gly Pro Asp His Leu Ala Ser Ser Cys Leu Trp His Leu 230 235 Gln Gly Pro Lys Asp Leu Met Leu Lys Leu Arg Leu Glu Trp Thr Leu Ala Glu Cys Arg Asp Arg Leu Ala Met Tyr Asp Val Ala Gly Pro Leu Glu Lys Arg Leu Ile Thr Ser Val Tyr Gly Cys Ser Arg Gln Glu Pro Val Val Glu Val Leu Ala Ser Gly Ala Ile Met Ala

				290					295					300
Val	Val	Trp	Lys	Lys 305	Gly	Leu	His	Ser	Tyr 310	Tyr	Asp	Pro	Phe	Val 315
Leu	Ser	Val	Gln	Pro 320	Val	Val	Phe	Gln	Ala 325	Суз	Glu	Val	Asn	Leu 330
Thr	Leu	Asp	Asn	Arg 335	Leu	Asp	Ser	Gln	Gly 340	Val	Leu	Ser	Thr	Pro 345
Tyr	Phe	Pro	Ser	Tyr 350	Tyr	Ser	Pro	Gln	Thr 355	His	Суѕ	Ser	Trp	His 360
Leu	Thr	Val	Pro	Ser 365	Leu	Asp	Tyr	Gly	Leu 370	Ala	Leu	Trp	Phe	Asp 375
Ala	Tyr	Ala	Leu	Arg 380	Arg	Gln	Lys	Tyr	Asp 385	Leu	Pro	Cys	Thr	Gln 390
Gly	Gln	Trp	Thr	Ile 395	Gln	Asn	Arg	Arg	Leu 400	Суз	Gly	Leu	Arg	Ile 405
Leu	Gln	Pro	Tyr	Ala 410	Glu	Arg	Ile	Pro	Val 415	Val	Ala	Thr	Ala	Gly 420
Ile	Thr	Ile	Asn	Phe 425	Thr	Ser	Gln	Ile	Ser 430	Leu	Thr	Gly	Pro	Gly 435
Val	Arg	Val	His	Tyr 440	Gly	Leu	Tyr	Asn	Gln 445	Ser	Asp	Pro	Cys	Pro 450
Gly	Glu	Phe	Leu	Cys 455	Ser	Val	Asn	Gly	Leu 460	Cys	Val	Pro	Ala	Cys 465
Asp	Gly	Val	Lys	Asp 470	Cys	Pro	Asn	Gly	Leu 475	Asp	Glu	Arg	Asn	Cys 480
Val	Cys	Arg	Ala	Thr 485	Phe	Gln	Cys	Lys	Glu 490	Asp	Ser	Thr	Cys	Ile 495
Ser	Leu	Pro	Lys	Val 500	Cys	Asp	Gly	Gln	Pro 505	Asp	Cys	Leu	Asn	Gly 510
Ser	Asp	Glu	Glu	Gln 515	Cys	Gln	Glu	Gly	Val 520	Pro	Cys	Gly	Thr	Phe 525
Thr	Phe	Gln	Cys	Glu 530	Asp	Arg	Ser	Cys	Val 535	Lys	Lys	Pro	Asn	Pro 540
Gln	Cys	Asp	Gly	Arg 545	Pro	Asp	Суз	Arg	Asp 550	Gly	Ser	Asp	Glu	Glu 555
His	Суѕ	Asp	Cys	Gly 560	Leu	Gln	Gly	Pro	Ser 565	Ser	Arg	Ile	Val	Gly 570
Gly	Ala	Val	Ser	Ser 575	Glu	Gly	Glu	Trp	Pro 580	Trp	Gln	Ala	Ser	Leu 585

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Arg Trp Val Ile Thr Ala Ala His Cys Phe Gln Glu Asp Ser Met
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                                     610
                                                         615
Ala Ser Thr Val Leu Trp Thr Val Phe Leu Gly Lys Val Trp Gln
Asn Ser Arg Trp Pro Gly Glu Val Ser Phe Lys Val Ser Arg Leu
Leu Leu His Pro Tyr His Glu Glu Asp Ser His Asp Tyr Asp Val
                                     655
Ala Leu Leu Gln Leu Asp His Pro Val Val Arg Ser Ala Ala Val
                665
                                     670
                                                         675
Arg Pro Val Cys Leu Pro Ala Arg Ser His Phe Phe Glu Pro Gly
                680
                                     685
Leu His Cys Trp Ile Thr Gly Trp Gly Ala Leu Arg Glu Gly Gly
                695
                                     700
                                                         705
Pro Ile Ser Asn Ala Leu Gln Lys Val Asp Val Gln Leu Ile Pro
Gln Asp Leu Cys Ser Glu Ala Tyr Arg Tyr Gln Val Thr Pro Arg
                                     730
Met Leu Cys Ala Gly Tyr Arg Lys Gly Lys Lys Asp Ala Cys Gln
                                     745
Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Ala Leu Ser Gly Arg
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Trp Phe Leu Ala Gly Leu Val Ser Trp Gly Leu Gly Cys Gly Arg
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Pro Asn Tyr Phe Gly Val Tyr Thr Arg Ile Thr Gly Val Ile Ser
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Trp Ile Gln Gln Val Val Thr 800

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<211> 1327

<212> DNA

<213> Homo sapiens

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<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Artificial Sequence

<sup>&</sup>lt;220>

<sup>&</sup>lt;223> Synthetic oligonucleotide probe

<sup>&</sup>lt;400> 171

taacagctgc ccactgcttc cagg 24

<sup>&</sup>lt;210> 172

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   <223> Synthetic oligonucleotide probe
  <400> 172
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  <210> 173
  <211> 50
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  <223> Synthetic oligonucleotide probe
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  <211> 50
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  <213> Homo sapiens
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<400> 177

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<210> 178

<211> 354

<212> PRT

<213> Homo sapiens

<400> 178

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Cys Phe Ala Ala Gly Ser Pro Val Pro Phe Gly Pro Glu Gly Arg
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Leu Glu Asp Lys Leu His Lys Pro Lys Ala Thr Gln Thr Glu Val
35 40 45

Lys Pro Ser Val Arg Phe Asn Leu Arg Thr Ser Lys Asp Pro Glu
50 55 60

His Glu Gly Cys Tyr Leu Ser Val Gly His Ser Gln Pro Leu Glu 65 70 75

Asp Cys Ser Phe Asn Met Thr Ala Lys Thr Phe Phe Ile Ile His 80 85 90

Gly Trp Thr Met Ser Gly Ile Phe Glu Asn Trp Leu His Lys Leu 95 100 105

Val Ser Ala Leu His Thr Arg Glu Lys Asp Ala Asn Val Val 110  $$\rm 115$$ 

Val Asp Trp Leu Pro Leu Ala His Gln Leu Tyr Thr Asp Ala Val 125 130 135

Asn Asn Thr Arg Val Val Gly His Ser Ile Ala Arg Met Leu Asp 140 145 150

Trp Leu Gln Glu Lys Asp Asp Phe Ser Leu Gly Asn Val His Leu 155 160 165

Ile Gly Tyr Ser Leu Gly Ala His Val Ala Gly Tyr Ala Gly Asn 170 175 180

Phe Val Lys Gly Thr Val Gly Arg Ile Thr Gly Leu Asp Pro Ala 185 190 195

Gly Pro Met Phe Glu Gly Ala Asp Ile His Lys Arg Leu Ser Pro 200 205 210

Asp Asp Ala Asp Phe Val Asp Val Leu His Thr Tyr Thr Arg Ser 215 220 225

Phe Gly Leu Ser Ile Gly Ile Gln Met Pro Val Gly His Ile Asp 230 235 240

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Ile Tyr Pro Asn Gly Gly Asp Phe Gln Pro Gly Cys Gly Leu Asn
                    245
    Asp Val Leu Gly Ser Ile Ala Tyr Gly Thr Ile Thr Glu Val Val
                                         265
                                                             270
    Lys Cys Glu His Glu Arg Ala Val His Leu Phe Val Asp Ser Leu
    Val Asn Gln Asp Lys Pro Ser Phe Ala Phe Gln Cys Thr Asp Ser
                                         295
   Asn Arg Phe Lys Lys Gly Ile Cys Leu Ser Cys Arg Lys Asn Arg
                                         310
    Cys Asn Ser Ile Gly Tyr Asn Ala Lys Lys Met Arg Asn Lys Arg
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                                         325
    Asn Ser Lys Met Tyr Leu Lys Thr Arg Ala Gly Met Pro Phe Arg
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    Gly Asn Leu Gln Ser Leu Glu Cys Pro
                    350
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ttgactctct ggtgaatcag gacaagccga gttttgcctt ccag 44

<210> 182

<211> 3240 <212> DNA <213> Homo sapiens

<400> 182 cggacgcgtg ggcggacgcg tgggcctggg caagggccgg ggcgccgggc 50 acgcgctgga ggagtggagc agcacccggc cggccctggg ggctgacagt 150 cggcaaagtt tggcccgaag aggaagtggt ctcaaacccc ggcaggtggc 200 gaccaggcca gaccaggggc gctcgctgcc tgcgggcggg ctgtaggcga 250 gggcgcgccc cagtgccgag acccggggct tcaggagccg gccccgggag 300 agaaqagtgc ggcggcggac ggagaaaaca actccaaagt tggcgaaagg 350 caccgcccct actcccgggc tgccgccgcc tccccgcccc cagccctggc 400 atccagagta cgggtcgagc ccgggccatg gagcccccct ggggaggcgg 450 caccagggag cctgggcgcc cggggctccg ccgcgacccc atcgggtaga 500 ccacagaagc teegggaccc tteeggcacc tetggacagc ecaggatget 550 gttggccacc ctcctcctcc tcctccttgg aggcgctctg gcccatccag 600 accggattat ttttccaaat catgcttgtg aggacccccc agcagtgctc 650 ttagaagtge agggeaeett acagaggeee etggteeggg acageegeae 700 ctcccctgcc aactgcacct ggctcatcct gggcagcaag gaacagactg 750 tcaccatcag qttccaqaag ctacacctgg cctgtggctc agagcgctta 800 accetacget ecceteteca gecaetgate tecetgtgtg aggeacetee 850 cagccctctg cagctgcccg ggggcaacgt caccatcact tacagctatg 900 ctggggccag agcacccatg ggccagggct tcctgctctc ctacagccaa 950 gattggctga tgtgcctgca ggaagagttt cagtgcctga accaccgctg 1000 tgtatctgct gtccagcgct gtgatggggt tgatgcctgt ggcgatggct 1050 ctgatgaagc aggttgcagc tcagacccct tccctggcct gaccccaaga 1100 eccgteceet ecctgeettg caatgteace ttggaggact tetatggggt 1150 cttctcctct cctggatata cacacctage ctcagtctcc cacccccagt 1200 cctgccattg gctgctggac ccccatgatg gccggcggct ggccgtgcgc 1250 ttcacagccc tggacttggg ctttggagat gcagtgcatg tgtatgacgg 1300 ccctgggccc cctgagagct cccgactact gcgtagtctc acccacttca 1350

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caccggaatg ccaattaact agagaccctc cagccccaa ggggaggatt 3100
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tcagtaagtt gaggtcaaaa ataaaggaat catacatctc 3240

<210> 183

<211> 713

<212> PRT

<213> Homo sapiens

<400> 183

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Ala His Pro Asp Arg Ile Ile Phe Pro Asn His Ala Cys Glu Asp
20 25 30

Pro Pro Ala Val Leu Leu Glu Val Gln Gly Thr Leu Gln Arg Pro 35 40 45

Leu Val Arg Asp Ser Arg Thr Ser Pro Ala Asn Cys Thr Trp Leu 50 55 60

Ile Leu Gly Ser Lys Glu Gln Thr Val Thr Ile Arg Phe Gln Lys
65 70 75

Leu His Leu Ala Cys Gly Ser Glu Arg Leu Thr Leu Arg Ser Pro 80 85 90

Leu Gln Pro Leu Ile Ser Leu Cys Glu Ala Pro Pro Ser Pro Leu 95 100 105

Gln Leu Pro Gly Gly Asn Val Thr Ile Thr Tyr Ser Tyr Ala Gly
110 115 120

Ala Arg Ala Pro Met Gly Gln Gly Phe Leu Leu Ser Tyr Ser Gln 125 130 135

Asp Trp Leu Met Cys Leu Gln Glu Glu Phe Gln Cys Leu Asn His 140 145 150

Arg Cys Val Ser Ala Val Gln Arg Cys Asp Gly Val Asp Ala Cys 155 160 165

Gly Asp Gly Ser Asp Glu Ala Gly Cys Ser Ser Asp Pro Phe Pro

				170					175					180
Gly	Leu	Thr	Pro	Arg 185	Pro	Val	Pro	Ser	Leu 190	Pro	Cys	Asn	Val	Thr 195
Leu	Glu	Asp	Phe	Tyr 200	Gly	Val	Phe	Ser	Ser 205	Pro	Gly	Tyr	Thr	His 210
Leu	Ala	Ser	Val	Ser 215	His	Pro	Gln	Ser	Cys 220	His	Trp	Leu	Leu	Asp 225
Pro	His	Asp	Gly	Arg 230	Arg	Leu	Ala	Val	Arg 235	Phe	Thr	Ala	Leu	Asp 240
Leu	Gly	Phe	Gly	Asp 245	Ala	Val	His	Val	Tyr 250	Asp	Gly	Pro	Gly	Pro 255
Pro	Glu	Ser	Ser	Arg 260	Leu	Leu	Arg	Ser	Leu 265	Thr	His	Phe	Ser	Asn 270
Gly	Lys	Ala	Val	Thr 275	Val	Glu	Thr	Leu	Ser 280	Gly	Gln	Ala	Val	Val 285
Ser	Tyr	His	Thr	Val 290	Ala	Trp	Ser	Asn	Gly 295	Arg	Gly	Phe	Asn	Ala 300
Thr	Tyr	His	Val	Arg 305	Gly	Tyr	Cys	Leu	Pro 310	Trp	Asp	Arg	Pro	Cys 315
Gly	Leu	Gly	Ser	Gly 320	Leu	Gly	Ala	Gly	Glu 325	Gly	Leu	Gly	Glu	Arg 330
Cys	Tyr	Ser	Glu	Ala 335	Gln	Arg	Cys	Asp	Gly 340	Ser	Trp	Asp	Cys	Ala 345
Asp	Gly	Thr	Asp	Glu 350	Glu	Asp	Cys	Pro	Gly 355	Cys	Pro	Pro	Gly	His 360
Phe	Pro	Суз	Gly	Ala 365	Ala	Gly	Thr	Ser	Gly 370	Ala	Thr	Ala	Cys	Tyr 375
Leu	Pro	Ala	Asp	Arg 380	Cys	Asn	Tyr	Gln	Thr 385	Phe	Суѕ	Ala	Asp	Gly 390
Ala	Asp	Glu	Arg	Arg 395	Cys	Arg	His	Cys	Gln 400	Pro	Gly	Asn	Phe	Arg 405
Cys	Arg	Asp	Glu	Lys 410	Cys	Val	Tyr	Glu	Thr 415	Trp	Val	Cys	Asp	Gly 420
Gln	Pro	Asp	Cys	Ala 425	Asp	Gly	Ser	Asp	Glu 430	Trp	Asp	Cys	Ser	Tyr 435
Val	Leu	Pro	Arg	Lys 440	Val	Ile	Thr	Ala	Ala 445	Val	Ile	Gly	Ser	Leu 450
Val	Суѕ	Gly	Leu	Leu 455	Leu	Val	Ile	Ala	Leu 460	Gly	Cys	Thr	Cys	Lys 465

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Leu Tyr Ala Ile Arg Thr Gln Glu Tyr Ser Ile Phe Ala Pro Leu
 Ser Arg Met Glu Ala Glu Ile Val Gln Gln Ala Pro Pro Ser
                                     490
 Tyr Gly Gln Leu Ile Ala Gln Gly Ala Ile Pro Pro Val Glu Asp
                 500
                                     505
 Phe Pro Thr Glu Asn Pro Asn Asp Asn Ser Val Leu Gly Asn Leu
                 515
 Arg Ser Leu Leu Gln Ile Leu Arg Gln Asp Met Thr Pro Gly Gly
 Gly Pro Gly Ala Arg Arg Gln Arg Gly Arg Leu Met Arg Arg
                                     550
 Leu Val Arg Arg Leu Arg Arg Trp Gly Leu Leu Pro Arg Thr Asn
                                     565
 Thr Pro Ala Arg Ala Ser Glu Ala Arg Ser Gln Val Thr Pro Ser
                                     580
 Ala Ala Pro Leu Glu Ala Leu Asp Gly Gly Thr Gly Pro Ala Arg
                                     595
 Glu Gly Gly Ala Val Gly Gly Gln Asp Gly Glu Gln Ala Pro Pro
                                     610
 Leu Pro Ile Lys Ala Pro Leu Pro Ser Ala Ser Thr Ser Pro Ala
                                     625
 Pro Thr Thr Val Pro Glu Ala Pro Gly Pro Leu Pro Ser Leu Pro
                                     640
 Leu Glu Pro Ser Leu Leu Ser Gly Val Val Gln Ala Leu Arg Gly
                                     655
 Arg Leu Leu Pro Ser Leu Gly Pro Pro Gly Pro Thr Arg Ser Pro
                                     670
 Pro Gly Pro His Thr Ala Val Leu Ala Leu Glu Asp Glu Asp Asp
 Val Leu Leu Val Pro Leu Ala Glu Pro Gly Val Trp Val Ala Glu
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Ala Glu Asp Glu Pro Leu Leu Thr
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<211> 20
<212> DNA
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<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

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   <212> DNA
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  <223> Synthetic oligonucleotide probe
  <400> 185
   gcaaggtcat tacagctg 18
  <210> 186
  <211> 23
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  <213> Artificial Sequence
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  <223> Synthetic oligonucleotide probe
<400> 186
   agaacatagg agcagtccca ctc 23
  <210> 187
  <211> 23
  <212> DNA
  <213> Artificial Sequence
<220>
  <223> Synthetic oligonucleotide probe
93
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  <400> 187
   tgcctgctgc tgcacaatct cag 23
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<210> 188
  <211> 45
  <212> DNA
  <213> Artificial Sequence
  <223> Synthetic oligonucleotide probe
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  <210> 189
  <211> 663
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  <213> Homo sapiens
  <400> 189
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   gctatcgctt cgcagaacct actcaggcag ccagctgaga agagttgagg 100
   gaaagtgctg ctgctgggtc tgcagacgcg atggataacg tgcagccgaa 150
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aataaaacat cgccccttct gcttcagtgt gaaaggccac gtgaagatgc 200
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gcccctgaac catatattgt tatcactgga tttgaagtca ccgttatctt 300
atttttcata cttttatatg tactcagact tgatcgatta atgaagtggt 350
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aaaaaaaaaaa aaa 663

<210> 190

<211> 152

<212> PRT

<213> Homo sapiens

<400> 190

Met Asp Asn Val Gln Pro Lys Ile Lys His Arg Pro Phe Cys Phe 1 5 10 15

Ser Val Lys Gly His Val Lys Met Leu Arg Leu Ala Leu Thr Val 20 25 30

Thr Ser Met Thr Phe Phe Ile Ile Ala Gln Ala Pro Glu Pro Tyr 35 40 45

Ile Val Ile Thr Gly Phe Glu Val Thr Val Ile Leu Phe Phe Ile
50 55 60

Leu Leu Tyr Val Leu Arg Leu Asp Arg Leu Met Lys Trp Leu Phe 65 70 75

Trp Pro Leu Leu Asp Ile Ile Asn Ser Leu Val Thr Thr Val Phe 80 85 90

Met Leu Ile Val Ser Val Leu Ala Leu Ile Pro Glu Thr Thr 95 100 105

Leu Thr Val Gly Gly Val Phe Ala Leu Val Thr Ala Val Cys 110 115 120

Cys Leu Ala Asp Gly Ala Leu Ile Tyr Arg Lys Leu Leu Phe Asn 125 130 135

Pro Ser Gly Pro Tyr Gln Lys Lys Pro Val His Glu Lys Lys Glu 140 145 150

Val Leu

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<222> 78, 212, 234, 487
<223> unknown base
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 categeeect tetgetteag tgtgaaagge caegtgaaga tgetgegget 200
 ggcactaact gngacatcta tgaccttttt tatnatcgca caagcccctg 250
 aaccatatat tgttatcact ggatttgaag tcaccgttat cttatttttc 300
 atacttttat atgtactcag acttgatcga ttaatgaagt ggttattttg 350
 gcctttgctt gatattatca actcactggt aacaacagta ttcatgctca 400
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<211> 25
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cgttttgcag aacctactca ggcag 25
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<400> 193
cctccaccaa ctgtcaatgt tgtgg 25
<210> 194
<211> 40
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<210> 196

<211> 518

<212> PRT

<213> Homo sapien

<400> 196

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Leu Pro Leu Arg Val Ala Ala Ala Thr Asn Arg Val Val Ala Pro 35 40 45

Thr Pro Gly Pro Gly Thr Pro Ala Glu Arg His Ala Asp Gly Leu
50 55 60

Ala Leu Ala Leu Glu Pro Ala Leu Ala Ser Pro Ala Gly Ala Ala 65 70 75

Asn Phe Leu Ala Met Val Asp Asn Leu Gln Gly Asp Ser Gly Arg 80 85 90

Gly Tyr Tyr Leu Glu Met Leu Ile Gly Thr Pro Pro Gln Lys Leu 95 100 105

Gln Ile Leu	Val Asp 110	Thr	Gly	Ser	Ser	Asn 115	Phe	Ala	Val	Ala	Gly 120
Thr Pro His	Ser Tyr 125	Ile	Asp	Thr	Tyr	Phe 130	Asp	Thr	Glu	Arg	Ser 135
Ser Thr Tyr	Arg Ser 140	Lys	Gly	Phe	Asp	Val 145	Thr	Val	Lys	Tyr	Thr 150
Gln Gly Ser	Trp Thr 155	Gly	Phe	Val	Gly	Glu 160	Asp	Leu	Val	Thr	Ile 165
Pro Lys Gly	Phe Asn 170	Thr	Ser	Phe	Leu	Val 175	Asn	Ile	Ala	Thr	Ile 180
Phe Glu Ser	Glu Asn 185	Phe	Phe	Leu	Pro	Gly 190	Ile	Lys	Trp	Asn	Gly 195
Ile Leu Gly	Leu Ala 200	Tyr	Ala	Thr	Leu	Ala 205	Lys	Pro	Ser	Ser	Ser 210
Leu Glu Thr	Phe Phe 215	Asp	Ser	Leu	Val	Thr 220	Gln	Ala	Asn	Ile	Pro 225
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Pro Ser Leu	Tyr Lys 260	Gly	Asp	Ile	Trp	Tyr 265	Thr	Pro	Ile	Lys	Glu 270
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Gln Ser Leu	Asn Leu 290	Asp	Cys	Arg	Glu	Tyr 295	Asn	Ala	Asp	Lys	Ala 300
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Phe Asp Ala	Val Val 320	Glu	Ala	Val	Ala	Arg 325	Ala	Ser	Leu	Ile	Pro 330
Glu Phe Ser	Asp Gly 335		Trp	Thr	Gly	Ser 340	Gln	Leu	Ala	Cys	Trp 345
Thr Asn Ser	Glu Thr 350		Trp	Ser	Tyr	Phe 355	Pro	Lys	Ile	Ser	Ile 360
Tyr Leu Arg	Asp Glu 365		Ser	Ser	Arg	Ser 370	Phe	Arg	Ile	Thr	Ile 375
Leu Pro Gln	Leu Tyr 380		Gln	Pro	Met	Met 385	Gly	Ala	Gly	Leu	Asn 390
Tyr Glu Cys	Tyr Arg	Phe	Gly	Ile	Ser	Pro	Ser	Thr	Asn	Ala	Leu

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Phe Met Ala Leu Asp Leu Ala Ser Leu Ala Ser Val Arg Ala Phe 95 100 105

Ala Thr Ala Phe Leu Ser Ser Glu Pro Arg Leu Asp Ile Leu Ile 110 115 120

His Asn Ala Gly Ile Ser Ser Cys Gly Arg Thr Arg Glu Ala Phe 125 130 135

Asn Leu Leu Leu Arg Val Asn His Ile Gly Pro Phe Leu Leu Thr 140 145 150

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His Ala His Asp Gly Gln Ala Leu Ser Thr Asp Leu Gly Val Tyr  $80 \\ 85 \\ 90$ 

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Pro Arg Asp Met Val Ala Val Val Gly Glu Gln Phe Thr Leu Glu 125 130 135

Cys Gly Pro Pro Trp Gly His Pro Glu Pro Thr Val Ser Trp Trp 140 145 150

Lys Asp Gly Lys Pro Leu Ala Leu Gln Pro Gly Arg His Thr Val 155 160 165

Ser Gly Gly Ser Leu Leu Met Ala Arg Ala Glu Lys Ser Asp Glu 170 175 180

Gly Thr Tyr Met Cys Val Ala Thr Asn Ser Ala Gly His Arg Glu 185 190 195

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Pro Arg Glu Ala Asp Cys Val Phe Ile Asp Ala Ser Ser Pro Pro
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- <212> PRT
- <213> Homo sapiens
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- Tyr Glu Ala Leu Glu Gly Pro Glu Glu Ile Ser Gly Phe Glu Gly
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- Asp Thr Val Ser Leu Gln Cys Thr Tyr Arg Glu Glu Leu Arg Asp 35 40 45
- His Arg Lys Tyr Trp Cys Arg Lys Gly Gly Ile Leu Phe Ser Arg
  50 55 60
- Cys Ser Gly Thr Ile Tyr Ala Glu Glu Glu Glu Glu Glu Thr Met  $\phantom{0}65\phantom{0}70\phantom{0}75$
- Lys Gly Arg Val Ser Ile Arg Asp Ser Arg Gln Glu Leu Ser Leu 80 85 90
- Ile Val Thr Leu Trp Asn Leu Thr Leu Gln Asp Ala Gly Glu Tyr 95 100 105
- Trp Cys Gly Val Glu Lys Arg Gly Pro Asp Glu Ser Leu Leu Ile 110 115 120
- Ser Leu Phe Val Phe Pro Gly Pro Cys Cys Pro Pro Ser Pro Ser 125 130 135
- Pro Thr Phe Gln Pro Leu Ala Thr Thr Arg Leu Gln Pro Lys Ala 140 145 150
- Lys Ala Gln Gln Thr Gln Pro Pro Gly Leu Thr Ser Pro Gly Leu
  155 160 165
- Tyr Pro Ala Ala Thr Thr Ala Lys Gln Gly Lys Thr Gly Ala Glu 170 175 180
- Ala Pro Pro Leu Pro Gly Thr Ser Gln Tyr Gly His Glu Arg Thr 185 190 195
- Ser Gln Tyr Thr Gly Thr Ser Pro His Pro Ala Thr Ser Pro Pro

200 205 210 Ala Gly Ser Ser Arg Pro Pro Met Gln Leu Asp Ser Thr Ser Ala 215 Glu Asp Thr Ser Pro Ala Leu Ser Ser Gly Ser Ser Lys Pro Arg 230 Val Ser Ile Pro Met Val Arg Ile Leu Ala Pro Val Leu Val Leu Leu Ser Leu Leu Ser Ala Ala Gly Leu Ile Ala Phe Cys Ser His 260 Leu Leu Trp Arg Lys Glu Ala Gln Gln Ala Thr Glu Thr Gln Arg Asn Glu Lys Phe Trp Leu Ser Arg Leu Thr Ala Glu Glu Lys 290 Glu Ala Pro Ser Gln Ala Pro Glu Gly Asp Val Ile Ser Met Pro 305 Pro Leu His Thr Ser Glu Glu Glu Leu Gly Phe Ser Lys Phe Val 320 330 Ser Ala <210> 217 <211> 24 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 217 ccctgcagtg cacctacagg gaag 24 <210> 218 <211> 24 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 218 ctgtcttccc ctgcttggct gtgg 24 <210> 219 <211> 47 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe

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 Ile Asn Ser Arg Arg Trp Cys Ser Asn Leu Thr Pro Asn Val Pro
 Asn Val Cys Arg Met Tyr Cys Ser Asp Leu Leu Asn Pro Asn Leu
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 Lys Asp Thr Val Ile Cys Ala Met Lys Ile Thr Gln Glu Pro Gln
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<211> 351

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<213> Homo sapiens

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Leu Ser Ser Val Gly Ser Ile Ser Glu Glu Glu Thr Cys Glu Lys 35 40 45

Leu Lys Gly Leu Ile Gln Arg Gln Val Gln Met Cys Lys Arg Asn 50 55 60

Leu Glu Val Met Asp Ser Val Arg Arg Gly Ala Gln Leu Ala Ile  $\phantom{0}65\phantom{0}70\phantom{0}75$ 

Glu Glu Cys Gln Tyr Gln Phe Arg Asn Arg Arg Trp Asn Cys Ser 80 85 90

Thr Leu Asp Ser Leu Pro Val Phe Gly Lys Val Val Thr Gln Gly 95 100 105

Thr Arg Glu Ala Ala Phe Val Tyr Ala Ile Ser Ser Ala Gly Val 110 115 120

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Cys Gly Cys Asp Arg Thr Val His Gly Val Ser Pro Gln Gly Phe
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Gln Trp Ser Gly Cys Ser Asp Asn Ile Ala Tyr Gly Val Ala Phe
Ser Gln Ser Phe Val Asp Val Arg Glu Arg Ser Lys Gly Ala Ser
Ser Ser Arg Ala Leu Met Asn Leu His Asn Asn Glu Ala Gly Arg
Lys Ala Ile Leu Thr His Met Arg Val Glu Cys Lys Cys His Gly
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Val Ser Gly Ser Cys Glu Val Lys Thr Cys Trp Arg Ala Val Pro
Pro Phe Arg Gln Val Gly His Ala Leu Lys Glu Lys Phe Asp Gly
Ala Thr Glu Val Glu Pro Arg Arg Val Gly Ser Ser Arg Ala Leu
Val Pro Arg Asn Ala Gln Phe Lys Pro His Thr Asp Glu Asp Leu
Val Tyr Leu Glu Pro Ser Pro Asp Phe Cys Glu Gln Asp Met Arg
Ser Gly Val Leu Gly Thr Arg Gly Arg Thr Cys Asn Lys Thr Ser
Lys Ala Ile Asp Gly Cys Glu Leu Leu Cys Cys Gly Arg Gly Phe
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Pro Leu Phe Leu Ala Leu Ala Val Leu Val Thr Thr Val Leu Trp 35 40 45

Ala Val Ile Leu Ser Ile Leu Leu Ser Lys Ala Ser Thr Glu Arg
50 55 60

Ala Ala Leu Leu Asp Gly His Asp Leu Leu Arg Thr Asn Ala Ser 65 70 75

Lys Gln Thr Ala Ala Leu Gly Ala Leu Lys Glu Glu Val Gly Asp 80 85 90

Cys His Ser Cys Cys Ser Gly Thr Gln Ala Gln Leu Gln Thr Thr 95 100 105

Arg Ala Glu Leu Gly Glu Ala Gln Ala Lys Leu Met Glu Gln Glu 110 115 120

Ser Ala Leu Arg Glu Leu Arg Glu Arg Val Thr Gln Gly Leu Ala 125 130 135

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                 155
Pro Thr Ser Trp Leu Ser Phe Glu Gly Ser Cys Tyr Phe Phe Ser
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Val Pro Lys Thr Trp Ala Ala Ala Gln Asp His Cys Ala Asp
Ala Ser Ala His Leu Val Ile Val Gly Gly Leu Asp Glu Gln Gly
Phe Leu Thr Arg Asn Thr Arg Gly Arg Gly Tyr Trp Leu Gly Leu
                 215
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Arg Ala Val Arg His Leu Gly Lys Val Gln Gly Tyr Gln Trp Val
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Asp Gly Val Ser Leu Ser Phe Ser His Trp Asn Gln Gly Glu Pro
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Asn Asp Ala Trp Gly Arg Glu Asn Cys Val Met Met Leu His Thr
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 Thr Phe Thr Gly Lys Trp Ser Gln Thr Ala Phe Pro Lys Gln Tyr
 Pro Leu Phe Arg Pro Pro Ala Gln Trp Ser Ser Leu Leu Gly Ala
 Ala His Ser Ser Asp Tyr Ser Met Trp Arg Lys Asn Gln Tyr Val
 Ser Asn Gly Leu Arg Asp Phe Ala Glu Arg Gly Glu Ala Trp Ala
 Leu Met Lys Glu Ile Glu Ala Ala Gly Glu Ala Leu Gln Ser Val
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	Thr	Ser	Ala	Glu	Leu 140	Glu	Val	Gln	Arg	Arg 145	His	Ser	Leu	Val	Ser 150
	Phe	Val	Val	Arg	Ile 155	Val	Pro	Ser	Pro	Asp 160	Trp	Phe	Val	Gly	Val 165
	Asp	Ser	Leu	Asp	Leu 170	Cys	Asp	Gly	Asp	Arg 175	Trp	Arg	Glu	Gln	Ala 180
	Ala	Leu	Asp	Leu	Tyr 185	Pro	Tyr	Asp	Ala	Gly 190	Thr	Asp	Ser	Gly	Phe 195
	Thr	Phe	Ser	Ser	Pro 200	Asn	Phe	Ala	Thr	Ile 205	Pro	Gln	Asp	Thr	Val 210
	Thr	Glu	Ile	Thr	Ser 215	Ser	Ser	Pro	Ser	His 220	Pro	Ala	Asn	Ser	Phe 225
The state of the s	Tyr	Tyr	Pro	Arg	Leu 230	Lys	Ala	Leu	Pro	Pro 235	Ile	Ala	Arg	Val	Thr 240
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	Pro	Val	Leu	Pro	Ser 260	Arg	Asp	Asn	Glu	Ile 265	Val	Asp	Ser	Ala	Ser 270
	Val	Pro	Glu	Thr	Pro 275	Leu	Asp	Cys	Glu	Val 280	Ser	Leu	Trp	Ser	Ser 285
	Trp	Gly	Leu	Cys	Gly 290	Gly	His	Cys	Gly	Arg 295	Leu	Gly	Thr	Lys	Ser 300
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Sei	r Arg	J Leu	Thr	Ala 170	Thr	Ser	Ala	ser	175		Gln	Ala	Ser	Leu 180
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Phe Lys Ala Val Thr Glu Thr Thr Lys Gly Ala Pro Val Ala Thr 65 70 75

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Gln Leu Thr Gly Asp Pro Ala Lys Gly Asn Cys Ser Leu Val Ile 95 100 105

Arg Asp Ala Gln Met Gln Asp Glu Ser Gln Tyr Phe Phe Arg Val 110 115 120

Glu Arg Gly Ser Tyr Val Thr Tyr Asn Phe Met Asn Asp Gly Phe 125 130 135

Phe Leu Lys Val Thr Val Leu Ser Phe Thr Pro Arg Pro Gln Asp 140 145 150

His Asn Thr Asp Leu Thr Cys His Val Asp Phe Ser Arg Lys Gly 155 160 165

Val Ser Ala Gln Arg Thr Val Arg Leu Arg Val Ala Tyr Ala Pro 170 175 180

Arg Asp Leu Val Ile Ser Ile Ser Arg Asp Asn Thr Pro Ala Leu 185 190 195

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Gly Gln Phe Leu Arg Leu Cys Ala Ala Asp Ser Gln Pro Pro 215 220 225

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<212> PRT

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Val Lys Gln Pro Val Arg Ser His Leu Arg Val Lys Arg Gly Trp 35 40 45

Val Trp Asn Gln Phe Phe Val Pro Glu Glu Met Asn Thr Thr Ser 50 55 60

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Ser	Phe	Gln	Tyr	Lys 80	Leu	Leu	Gly	Ala	Gly 85	Ala	Gly	Ser	Thr	Phe 90
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Asp	Ile	Ala	Thr	Gly 125	Arg	Ala	Val	Glu	Pro 130	Glu	Ser	Glu	Phe	Val 135
Ile	Lys	Val	Ser	Asp 140	Ile	Asn	Asp	Asn	Glu 145	Pro	Lys	Phe	Leu	Asp 150
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Leu	Val	Ile	Gln	Val 170	Thr	Ala	Ser	Asp	Ala 175	Asp	Asp	Pro	Ser	Ser 180
Gly	Asn	Asn	Ala	Arg 185	Leu	Leu	Tyr	Ser	Leu 190	Leu	Gln	Gly	Gln	Pro 195
Tyr	Phe	Ser	Val	Glu 200	Pro	Thr	Thr	Gly	Val 205	Ile	Arg	Ile	Ser	Ser 210
Lys	Met	Asp	Arg	Glu 215	Leu	Gln	Asp	Glu	Tyr 220	Trp	Val	Ile	Ile	Gln 225
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Ser	Val	Leu	Ile	Lys 245	Leu	Ser	Asp	Val	Asn 250	Asp	Asn	Lys	Pro	Ile 255
Phe	Lys	Glu	Ser	Leu 260	Tyr	Arg	Leu	Thr	Val 265	Ser	Glu	Ser	Ala	Pro 270
Thr	Gly	Thr	Ser	Ile 275	Gly	Thr	Ile	Met	Ala 280	Tyr	Asp	Asn	Asp	Ile 285
Gly	Glu	Asn	Ala	Glu 290	Met	Asp	Tyr	Ser	Ile 295	Glu	Glu	Asp	Asp	Ser 300
Gln	Thr	Phe	Asp	Ile 305	Ile	Thr	Asn	His	Glu 310	Thr	Gln	Glu	Gly	Ile 315
Val	Ile	Leu	Lys	Lys 320	Lys	Val	Asp	Phe	Glu 325	His	Gln	Asn	His	Tyr 330
Gly	Ile	Arg	Ala	Lys 335	Val	Lys	Asn	His	His 340	Val	Pro	Glu	Gln	Leu 345
Met	Lys	Tyr	His	Thr	Glu	Ala	Ser	Thr	Thr	Phe	Ile	Lys	Ile	Gln

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Val	Val	Ser	Ala	Thr 395	Asp	Pro	Asp	Asn	Arg 400	Lys	Ser	Pro	Ile	Arg 405
Tyr	Ser	Ile	Thr	Arg 410	Ser	Lys	Val	Phe	Asn 415	Ile	Asn	Asp	Asn	Gly 420
Thr	Ile	Thr	Thr	Ser 425	Asn	Ser	Leu	Asp	Arg 430	Glu	Ile	Ser	Ala	Trp 435
Tyr	Asn	Leu	Ser	Ile 440	Thr	Ala	Thr	Glu	Lys 445	Tyr	Asn	Ile	Glu	Gln 450
Ile	Ser	Ser	Ile	Pro 455	Leu	Tyr	Val	Gln	Val 460	Leu	Asn	Ile	Asn	Asp 465
His	Ala	Pro	Glu	Phe 470	Ser	Gln	Tyr	Tyr	Glu 475	Thr	Tyr	Val	Суз	Glu 480
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Arg	Asp	Glu	Ser	Ile 500	Glu	Glu	His	His	Phe 505	Tyr	Phe	Asn	Leu	Ser 510
Val	Glu	Asp	Thr	Asn 515	Asn	Ser	Ser	Phe	Thr 520	Ile	Ile	Asp	Asn	Gln 525
Asp	Asn	Thr	Ala	Val 530	Ile	Leu	Thr	Asn	Arg 535	Thr	Gly	Phe	Asn	Leu 540
Gln	Glu	Glu	Pro	Val 545	Phe	Tyr	Ile	Ser	Ile 550	Leu	Ile	Ala	Asp	Asn 555
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Cys	Asp	Cys	Gly	Asp 575	Ser	Gly	Ser	Thr	Gln 580	Thr	Cys	Gln	Tyr	Gln 585
Glu	Leu	Val	Leu	Ser 590	Met	Gly	Phe	Lys	Thr 595	Glu	Val	Ile	Ile	Ala 600
Ile	Leu	Ile	Cys	Ile 605	Met	Ile	Ile	Phe	Gly 610	Phe	Ile	Phe	Leu	Thr 615
Leu	Gly	Leu	Lys	Gln 620	Arg	Arg	Lys	Gln	Ile 625	Leu	Phe	Pro	Glu	Lys 630
Ser	Glu	Asp	Phe	Arg 635	Glu	Asn	Ile	Phe	Gln 640	Tyr	Asp	Asp	Glu	Gly 645

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                 665
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Asp Ser Ala Ile Phe Arg Lys Phe Ile Leu Glu Lys Leu Glu Glu
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Ala Asn Thr Asp Pro Cys Ala Pro Pro Phe Asp Ser Leu Gln Thr
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 Tyr Ala Phe Glu Gly Thr Gly Ser Leu Ala Gly Ser Leu Ser Ser
                                                          735
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<213> Homo sapiens

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Arg Ile Tyr Ser Tyr Ala Gly Asp Asn Ile Val Thr Ala Gln Ala 35 40 45

Met Tyr Glu Gly Leu Trp Met Ser Cys Val Ser Gln Ser Thr Gly
50 55 60

Gln Ile Gln Cys Lys Val Phe Asp Ser Leu Leu Asn Leu Ser Ser 65 70 75

Thr Leu Gln Ala Thr Arg Ala Leu Met Val Val Gly Ile Leu Leu
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85

Gly Val Ile Ala Ile Phe Val Ala Thr Val Gly Met Lys Cys Met
95 100 105

Lys Cys Leu Glu Asp Asp Glu Val Gln Lys Met Arg Met Ala Val 110 115 120

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<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 34, 87, 138, 147, 163, 165-166, 172
<223> unknown base
<400> 277
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 cacagcatgg tatggcaata gaatcgttca agaattntat gaccctatga 100
 ccccagtcaa tgccaggtac gaatttggtc aggctctntt cactggntgg 150
 gctgctgctt ctntnngcct tntgggaggt gccctacttt gctgttcctg 200
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<211> 542
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 26, 43, 55, 77, 198, 361-362, 391-392, 396
<223> unknown base
<400> 278
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 ttacncctat gctggcgaac aacatcntga ccgcccaggc catgtacgag 100
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 aagtetttga eteettgetg aatetgagea geacattgea ageaacentg 200
 ccttgatggt ggttggcatc ctcctgggag tgatagcaat ctttgtggcc 250
 accgttggca tgaaagtgta tgaagtgctt ggaagacgat gaggtgcaga 300
 agatgaggat ggctgtcatt gggggcgcga tatttcttct tgcaggtctg 350
 gctattttag nngccacagc atggtatggc aatcagaccc nntcanaaac 400
 tctatgaccc tatgacccca gtcaatgcca ggtacgaatt tggtcaggct 450
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<210> 279
<211> 548
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 90, 115, 147, 228, 387
<223> unknown base
<400> 279
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 acaacatcgt gaccncccag gccatgtacg aggggctgtg gatgtcngcg 150
 tgtcgcagag caccgggcag atccagtgca aagtctttga ctccttgctg 200
 aatctgagca gcacattgca agcaaccntg ccttgatggt ggttggcatc 250
 ctcctgggag tgatagcaat ctttgtggcc accgttggca tgaagtgtat 300
 gaagtgcttg gaagacgatg aggtgcagaa gatgaggatg gctgtcattg 350
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<223> Synthetic oligonucleotide probe
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<223> Synthetic oligonucleotide probe
<400> 281
gtgtcacacg tagtctttcc cgctgg 26
<210> 282
<211> 43
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 282
ctgcagctgt tgggcttcat tctcgccttc ctgggatgga tcg 43
<210> 283
<211> 2285
<212> DNA
<213> Homo sapiens
<400> 283
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 ctgcgcctgc accgcgtaga ccgaccccc cctccagcgc gcccacccgg 100
 tagaggaccc ccgcccgtgc cccgaccggt ccccgccttt ttgtaaaact 150
 taaagcgggc gcagcattaa cgcttcccgc cccggtgacc tctcaggggt 200
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 ggtcctgagc ctcgagccgc agcacgagct caaattccga ggtcccttca 300
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<210> 284

<211> 243

<212> PRT

<213> Homo sapiens

<400> 284

Met Ala Lys Val Glu Gln Val Leu Ser Leu Glu Pro Gln His Glu 1 5 10 15

Leu Lys Phe Arg Gly Pro Phe Thr Asp Val Val Thr Thr Asn Leu 20 25 30

Lys Leu Gly Asn Pro Thr Asp Arg Asn Val Cys Phe Lys Val Lys 35 40 45

Thr Thr Ala Pro Arg Arg Tyr Cys Val Arg Pro Asn Ser Gly Ile
50 55 60

Ile Asp Ala Gly Ala Ser Ile Asn Val Ser Val Met Leu Gln Pro 65 70 75

Phe Asp Tyr Asp Pro Asn Glu Lys Ser Lys His Lys Phe Met Val 80 85 90

Gln Ser Met Phe Ala Pro Thr Asp Thr Ser Asp Met Glu Ala Val $95 \hspace{1.5cm} 100 \hspace{1.5cm} 105$ 

Trp Lys Glu Ala Lys Pro Glu Asp Leu Met Asp Ser Lys Leu Arg 110 115 120

Cys Val Phe Glu Leu Pro Ala Glu Asn Asp Lys Pro His Asp Val 125 130 135

Glu Ile Asn Lys Ile Ile Ser Thr Thr Ala Ser Lys Thr Glu Thr  $140 \hspace{1.5cm} 145 \hspace{1.5cm} 150 \hspace{1.5cm}$ 

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Pro Ile Val Ser Lys Ser Leu Ser Ser Ser Leu Asp Asp Thr Glu
                 155
Val Lys Lys Val Met Glu Glu Cys Lys Arg Leu Gln Gly Glu Val
                                     175
                 170
 Gln Arg Leu Arg Glu Glu Asn Lys Gln Phe Lys Glu Glu Asp Gly
                 185
                                     190
Leu Arg Met Arg Lys Thr Val Gln Ser Asn Ser Pro Ile Ser Ala
                 200
                                                          210
 Leu Ala Pro Thr Gly Lys Glu Glu Gly Leu Ser Thr Arg Leu Leu
                 215
 Ala Leu Val Val Leu Phe Phe Ile Val Gly Val Ile Ile Gly Lys
                 230
 Ile Ala Leu
<210> 285
<211> 418
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 40, 53, 68, 119, 134, 177-178, 255
<223> unknown base
<400> 285
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 tenagegeee aggteeangt etgageetga etteeeettg gggaeetage 100
 ctggagtcag gacaatggnt cgggctgcag aggnttagaa gcgagggcac 150
 cagcagtttt gggtggggag caagggnnga gagaaactct tcagcgaatc 200
 cttctagtac tagttgagag tttgactgtg aattaatttt atgccataaa 250
 agacnaaccc agttctgttt gactatgtag catcttgaaa agaaaaatta 300
 taataaagcc ccaaaattaa gaattctttt gtcattttgt cacatttgct 350
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<210> 286
<211> 543
<212> DNA
<213> Homo sapiens
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<220>

<221> unsure

<222> 73, 97

<223> unknown base

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<223> unknown base
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 gggagctgga gccccagcat gctggggagt gcggtcagct ccacacagta 150
 gtccccacgt ggcccactcc cggcccaggc tgctttccgt gtcttcagtt 200
 ctgtccaagc catcagctcc ttgggactga tgaacagagt cagaagccca 250
 aaggaattgc cactgtggca gcatcagacg tactcgtcat aagtgagagg 300
 cgtgtgttga ctgattgacc cagcgctttg gaaataaatg gcagtgcttt 350
 gttcacttaa agggaccaag ctaaattgta ttggttcatg tagtgaagtc 400
 aaactgttat tcagagatgt ttaatgcata tttaacttat ttaatgtatt 450
 tcatctcatg ttttcttatt gtcacaagag tacagttaat gctgcgtgct 500
 gctgaactct gttgggtgaa ctggtattgc tgctggaggg ctg 543
<210> 287
<211> 270
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 38, 64, 72, 164, 198, 200, 220, 222, 229, 242
<223> unknown base
<400> 287
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 catatccatg ggatttaaat ttatcataac catgtgtaaa aagaaattaa 150
 tgtatgatga catntcacag gtattgcctt taaattaccc atccctgnan 200
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 agttaaaaat gtatagtaac 270
<210> 288
<211> 428
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 35, 116, 129, 197, 278, 294, 297, 349, 351
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 gcactgtggc agcatnagac gtacttgtna taagtgagag gcgtgtgttg 150
actgattgac ccagcgcttt ggaaataaat ggcagtgctt tgttcantta 200
aagggaccaa gctaaatttg tattggttca tgtagtgaag tcaaactgtt 250
attcagagat gtttaatgca tatttaantt atttaatgta tttnatntca 300
 tgttttctta ttgtcacaag agtacagtta atgctgcgtg ctgctgaant 350
ntgttgggtg aactggtatt gctgctggag ggctgtgggc tcctctgtct 400
ttggagagtc tggtcatgtg gaggtggg 428
<210> 289
<211> 320
<212> DNA
<213> Homo sapiens
<400> 289
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 tactcgtcat aagtgagagg cgtgtgttga ctgattgacc cagcgctttg 150
 gaaataaatg gcagtgcttt gttcacttaa agggaccaag ctaaatttgt 200
 attggttcat gtagtgaagt caaactgtta ttcagagatg tttaatgcat 250
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<210> 290
<211> 609
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 57, 60, 186, 235, 244, 304, 339, 355, 359, 361, 387, 432, 441,
      447, 481, 513, 532, 584, 598
<223> unknown base
<400> 290
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 ttggtaggcc ttggtacatg atgctggatt acctctctta aaatgacacc 150
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<210> 293 <211> 23 <212> DNA

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 ggantgatga acagagtcag aagcccaaag gaattgcant gtggcagcat 350
 cagangtant ngtcataagt gagaggcgtg tgttgantga ttgacccagc 400
 gctttggaaa taaatggcag tgctttgttc anttaaaggg nccaagntaa 450
 atttgtattg gttcatgtag tgaagtcaaa ntgttattca gagatgttta 500
 atgcatattt aanttattta atgtatttca tntcatgttt tcttattgtc 550
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<210> 291
<211> 493
<212> DNA
<213> Homo sapiens
<400> 291
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<210> 292
<211> 27
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 292
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<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 293
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<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
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<210> 295
<211> 2530
<212> DNA
<213> Homo sapiens
<400> 295
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 gctctgatct cagctgacag tgccctcggg gaccaaacaa gcctggcagg 150
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actatgtcaa agggaqtaaa aagctaaggg tagggttgtt gaagatgagg 850

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<210> 296

<211> 413

<212> PRT

<213> Homo sapiens

<400> 296

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Thr Leu Ile Asp Gly Ser Glu Met Glu Trp Asp Phe Met Trp His 20 25 30

Leu Arg Lys Val Pro Arg Ile Val Ser Glu Arg Thr Phe His Leu 35 40 45

Thr Ser Pro Ala Phe Glu Ala Asp Ala Lys Met Met Val Asn Thr 50 55 60

Val Cys Gly Ile Glu Cys Gln Lys Glu Leu Pro Thr Pro Ser Leu 65 70 75

Ser Glu Leu Glu Asp Tyr Leu Ser Tyr Glu Thr Val Phe Glu Asn 80 85 90

Gly Thr Arg Thr Leu Thr Arg Val Lys Val Gln Asp Leu Val Leu 95 100 105

Glu Pro Thr Gln Asn Ile Thr Thr Lys Gly Val Ser Val Arg Arg
110 115 120

Lys Arg Gln Val Tyr Gly Thr Asp Ser Arg Phe Ser Ile Leu Asp 125 130 135

Lys Arg Phe Leu Thr Asn Phe Pro Phe Ser Thr Ala Val Lys Leu 140 145 150

Ser Thr Gly Cys Ser Gly Ile Leu Ile Ser Pro Gln His Val Leu 155 160 165

Thr Ala Ala His Cys Val His Asp Gly Lys Asp Tyr Val Lys Gly
170 175 180

Ser Lys Lys Leu Arg Val Gly Leu Leu Lys Met Arg Asn Lys Ser 185 190 195

Gly Gly Lys Lys Arg Arg Gly Ser Lys Arg Ser Arg Arg Glu Ala 200 205 210

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Ser Gly Gly Asp Gln Arg Glu Gly Thr Arg Glu His Leu Gln Glu
Arg Ala Lys Gly Gly Arg Arg Lys Lys Ser Gly Arg Gly Gln
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                                                        240
Arg Ile Ala Glu Gly Arg Pro Ser Phe Gln Trp Thr Arg Val Lys
Asn Thr His Ile Pro Lys Gly Trp Ala Arg Gly Gly Met Gly Asp
Ala Thr Leu Asp Tyr Asp Tyr Ala Leu Leu Glu Leu Lys Arg Ala
His Lys Lys Lys Tyr Met Glu Leu Gly Ile Ser Pro Thr Ile Lys
                                                        300
Lys Met Pro Gly Gly Met Ile His Phe Ser Gly Phe Asp Asn Asp
                                    310
Arg Ala Asp Gln Leu Val Tyr Arg Phe Cys Ser Val Ser Asp Glu
                                                        330
Ser Asn Asp Leu Leu Tyr Gln Tyr Cys Asp Ala Glu Ser Gly Ser
Thr Gly Ser Gly Val Tyr Leu Arg Leu Lys Asp Pro Asp Lys Lys
Asn Trp Lys Arg Lys Ile Ile Ala Val Tyr Ser Gly His Gln Trp
                365
Val Asp Val His Gly Val Gln Lys Asp Tyr Asn Val Ala Val Arg
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Ile Thr Pro Leu Lys Tyr Ala Gln Ile Cys Leu Trp Ile His Gly
                395
                                                         405
Asn Asp Ala Asn Cys Ala Tyr Gly
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- <211> 24
- <212> DNA
- <213> Artificial Sequence
- <220>
- <223> Synthetic oligonucleotide probe
- <400> 297
- gcatctgcag gagagagcga aggg 24
- <210> 298
- <211> 24
- <212> DNA
- <213> Artificial Sequence

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<223> Synthetic oligonucleotide probe
<400> 298
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<210> 299
<211> 45
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<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 299
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<210> 300
<211> 1869
<212> DNA
<213> Homo sapiens
<400> 300
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 tgtccgattc tgattccggc aaggatccaa gcatggaatg ctgccgtcgg 150
 gcaactcctg gcacactgct cctctttctg gctttcctgc tcctgagttc 200
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 cagaacatgc agtaatgtgg actgcccacc agaagcaggt gatttccgag 400
 ctcagcaatg ctcagctcat aatgatgtca agcaccatgg ccagttttat 450
 gaatggcttc ctgtgtctaa tgaccctgac aacccatgtt cactcaagtg 500
 ccaagccaaa ggaacaaccc tggttgttga actagcacct aaggtcttag 550
 atggtacgcg ttgctataca gaatctttgg atatgtgcat cagtggttta 600
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 ggcagtataa atcccagctc tccgcaacca aatcggatga tactgtggtt 750
 gcacttccct atggaagtag acatattcgc cttgtcttaa aaggtcctga 800
 tcacttatat ctggaaacca aaaccctcca ggggactaaa ggtgaaaaca 850
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qtctcaqctc cacaggaact ttccttgtgg acaattctag tgtggacttc 900

cagaaatttc cagacaaaga gatactgaga atggctggac cactcacagc 950 agatttcatt gtcaagattc gtaactcggg ctccgctgac agtacagtcc 1000 agttcatctt ctatcaaccc atcatccacc gatggaggga gacggatttc 1050 tttccttgct cagcaacctg tggaggaggt tatcagctga catcggctga 1100 qtqctacqat ctqaqqaqca accqtqtqqt tqctqaccaa tactqtcact 1150 attacccaga gaacatcaaa cccaaaccca agcttcagga gtgcaacttg 1200 gatecttgte cagecagtga eggatacaag cagateatge ettatgaeet 1250 ctaccatccc cttcctcqqt gggaggccac cccatggacc gcgtgctcct 1300 cctcqtqtqq qgqgqgcatc cagagccggg cagtttcctg tgtggaggag 1350 qacatccaqq qqcatqtcac ttcaqtqqaa qaqtqqaaat qcatqtacac 1400 ccctaagatg cccatcgcgc agccctgcaa catttttgac tgccctaaat 1450 ggctggcaca ggagtggtct ccgtgcacag tgacatgtgg ccagggcctc 1500 agataccqtq tqqtcctctq catcgaccat cgaggaatgc acacaggagg 1550 ctgtagccca aaaacaaagc cccacataaa agaggaatgc atcgtaccca 1600 ctccctgcta taaacccaaa gagaaacttc cagtcgaggc caagttgcca 1650 tggttcaaac aagctcaaga gctagaagaa ggagctgctg tgtcagagga 1700 gccctcqtaa qttqtaaaag cacagactqt tctatatttg aaactqtttt 1750 gtttaaagaa agcagtgtct cactggttgt agctttcatg ggttctgaac 1800 taagtgtaat catctcacca aagctttttg gctctcaaat taaagattga 1850 ttagtttcaa aaaaaaaaa 1869

<210> 301

<211> 525

<212> PRT

<213> Homo sapiens

<400> 301

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Leu Ala Phe Leu Leu Ser Ser Arg Thr Ala Arg Ser Glu Glu
20 25 30

Asp Arg Asp Gly Leu Trp Asp Ala Trp Gly Pro Trp Ser Glu Cys

Ser Arg Thr Cys Gly Gly Gly Ala Ser Tyr Ser Leu Arg Arg Cys 50 55 60

Leu	Ser	Ser	Lys	Ser 65	Cys	Glu	Gly	Arg	Asn 70	Ile	Arg	Tyr	Arg	Thr 75
Cys	Ser	Asn	Val	Asp 80	Cys	Pro	Pro	Glu	Ala 85	Gly	Asp	Phe	Arg	Ala 90
Gln	Gln	Суз	Ser	Ala 95	His	Asn	Asp	Val	Lys 100	His	His	Gly	Gln	Phe 105
Tyr	Glu	Trp	Leu	Pro 110	Val	Ser	Asn	Asp	Pro 115	Asp	Asn	Pro	Суѕ	Ser 120
Leu	Lys	Суз	Gln	Ala 125	Lys	Gly	Thr	Thr	Leu 130	Val	Val	Glu	Leu	Ala 135
Pro	Lys	Val	Leu	Asp 140	Gly	Thr	Arg	Cys	Tyr 145	Thr	Glu	Ser	Leu	Asp 150
Met	Cys	Ile	Ser	Gly 155	Leu	Cys	Gln	Ile	Val 160	Gly	Cys	Asp	His	Gln 165
Leu	Gly	Ser	Thr	Val 170	Lys	Glu	Asp	Asn	Cys 175	Gly	Val	Cys	Asn	Gly 180
Asp	Gly	Ser	Thr	Cys 185	Arg	Leu	Val	Arg	Gly 190	Gln	Tyr	Lys	Ser	Gln 195
Leu	Ser	Ala	Thr	Lys 200	Ser	Asp	Asp	Thr	Val 205	Val	Ala	Leu	Pro	Tyr 210
Gly	Ser	Arg	His	Ile 215	Arg	Leu	Val	Leu	Lys 220	Gly	Pro	Asp	His	Leu 225
Tyr	Leu	Glu	Thr	Lys 230	Thr	Leu	Gln	Gly	Thr 235	Lys	Gly	Glu	Asn	Ser 240
Leu	Ser	Ser	Thr	Gly 245	Thr	Phe	Leu	Val	Asp 250	Asn	Ser	Ser	Val	Asp 255
Phe	Gln	Lys	Phe	Pro 260	Asp	Lys	Glu	Ile	Leu 265	Arg	Met	Ala	Gly	Pro 270
Leu	Thr	Ala	Asp	Phe 275	Ile	Val	Lys	Ile	Arg 280	Asn	Ser	Gly	Ser	Ala 285
Asp	Ser	Thr	Val	Gln 290	Phe	Ile	Phe	Tyr	Gln 295	Pro	Ile	Ile	His	Arg 300
Trp	Arg	Glu	Thr	Asp 305	Phe	Phe	Pro	Cys	Ser 310	Ala	Thr	Cys	Gly	Gly 315
Gly	Tyr	Gln	Leu	Thr 320	Ser	Ala	Glu	Cys	Tyr 325	Asp	Leu	Arg	Ser	Asn 330
Arg	Val	Val	Ala	Asp 335	Gln	Tyr	Cys	His	Tyr 340	Tyr	Pro	Glu	Asn	Ile 345
Lys	Pro	Lys	Pro	Lys	Leu	Gln	Glu	Cys	Asn	Leu	Asp	Pro	Cys	Pro

				350					355					360
Ala	Ser	Asp	Gly	Tyr 365	Lys	Gln	Ile	Met	Pro 370	Tyr	Asp	Leu	Tyr	His 375
Pro	Leu	Pro	Arg	Trp 380	Glu	Ala	Thr	Pro	Trp 385	Thr	Ala	Cys	Ser	Ser 390
Ser	Cys	Gly	Gly	Gly 395	Ile	Gln	Ser	Arg	Ala 400	Val	Ser	Cys	Val	Glu 405
Glu	Asp	Ile	Gln	Gly 410	His	Val	Thr	Ser	Val 415	Glu	Glu	Trp	Lys	Cys 420
Met	Tyr	Thr	Pro	Lys 425	Met	Pro	Ile	Ala	Gln 430	Pro	Cys	Asn	Ile	Phe 435
Asp	Cys	Pro	Lys	Trp 440	Leu	Ala	Gln	Glu	Trp 445	Ser	Pro	Cys	Thr	Val 450
Thr	Cys	Gly	Gln	Gly 455	Leu	Arg	Tyr	Arg	Val 460	Val	Leu	Cys	Ile	Asp 465
His	Arg	Gly	Met	His 470	Thr	Gly	Gly	Cys	Ser 475	Pro	Lys	Thr	Lys	Pro 480
His	Ile	Lys	Glu	Glu 485	Cys	Ile	Val	Pro	Thr 490	Pro	Cys	Tyr	Lys	Pro 495
Lys	Glu	Lys	Leu	Pro 500	Val	Glu	Ala	Lys	Leu 505	Pro	Trp	Phe	Lys	Gln 510
Ala	Gln	Glu	Leu	Glu 515	Glu	Gly	Ala	Ala	Val 520	Ser	Glu	Glu	Pro	Ser 525
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<211														
<212														
<213	> Hor	mo s	apie	ns										

<213> Homo sapiens

<400> 302

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<210> 303

<211> 336

<212> PRT

<213> Homo sapiens

<400> 303

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Ala Leu Trp Leu Ala Ala Arg Arg Phe Val Gly Pro Arg Val Gln 20 25 30

Arg Leu Arg Arg Gly Gly Asp Pro Gly Leu Met His Gly Lys Thr 35 40 45

Val	Leu	Ile	Thr	Gly 50	Ala	Asn	Ser	Gly	Leu 55	Gly	Arg	Ala	Thr	Ala 60
Ala	Glu	Leu	Leu	Arg 65	Leu	Gly	Ala	Arg	Val 70	Ile	Met	Gly	Cys	Arg 75
Asp	Arg	Ala	Arg	Ala 80	Glu	Glu	Ala	Ala	Gly 85	Gln	Leu	Arg	Arg	Glu 90
Leu	Arg	Gln	Ala	Ala 95	Glu	Cys	Gly	Pro	Glu 100	Pro	Gly	Val	Ser	Gly 105
Val	Gly	Glu	Leu	Ile 110	Val	Arg	Glu	Leu	Asp 115	Leu	Ala	Ser	Leu	Arg 120
Ser	Val	Arg	Ala	Phe 125	Cys	Gln	Glu	Met	Leu 130	Gln	Glu	Glu	Pro	Arg 135
Leu	Asp	Val	Leu	Ile 140	Asn	Asn	Ala	Gly	Ile 145	Phe	Gln	Cys	Pro	Tyr 150
Met	Lys	Thr	Glu	Asp 155	Gly	Phe	Glu	Met	Gln 160	Phe	Gly	Val	Asn	His 165
Leu	Gly	His	Phe	Leu 170	Leu	Thr	Asn	Leu	Leu 175	Leu	Gly	Leu	Leu	Lys 180
Ser	Ser	Ala	Pro	Ser 185	Arg	Ile	Val	Val	Val 190	Ser	Ser	Lys	Leu	Tyr 195
Lys	Tyr	Gly	Asp	Ile 200	Asn	Phe	Asp	Asp	Leu 205	Asn	Ser	Glu	Gln	Ser 210
Tyr	Asn	Lys	Ser	Phe 215	Cys	Tyr	Ser	Arg	Ser 220	Lys	Leu	Ala	Asn	Ile 225
Leu	Phe	Thr	Arg	Glu 230	Leu	Ala	Arg	Arg	Leu 235	Glu	Gly	Thr	Asn	Val 240
Thr	Val	Asn	Val	Leu 245	His	Pro	Gly	Ile	Val 250	Arg	Thr	Asn	Leu	Gly 255
Arg	His	Ile	His	Ile 260	Pro	Leu	Leu	Val	Lys 265	Pro	Leu	Phe	Asn	Leu 270
Val	Ser	Trp	Ala	Phe 275	Phe	Lys	Thr	Pro	Val 280	Glu	Gly	Ala	Gln	Thr 285
Ser	Ile	Tyr	Leu	Ala 290	Ser	Ser	Pro	Glu	Val 295	Glu	Gly	Val	Ser	Gly 300
Arg	Tyr	Phe	Gly	Asp 305	Cys	Lys	Glu	Glu	Glu 310	Leu	Leu	Pro	Lys	Ala 315
Met	Asp	Glu	Ser	Val 320	Ala	Arg	Lys	Leu	Trp 325	Asp	Ile	Ser	Glu	Val 330
Met	Val	Gly	Leu	Leu	Lys									

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<211> 521
<212> DNA
<213> Homo sapiens
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<221> unsure
<222> 20, 34, 62, 87, 221, 229
<223> unknown base
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 ggaacaagga gtaaaagagc tgtttataaa actgcatatc agttatatct 150
 gtgatcagga atggtgtgga ttgagaactt gttacttgaa gaaaaagaat 200
 tttgatattg gaatagcctg ntaagaggna catgtgggta ttttggagtt 250
 actgaaaaat tatttttggg ataagagaat ttcagcaaag atgttttaaa 300
 tatatatagt aagtataatg aataataagt acaatgaaaa atacaattat 350
 attgtaaaat tataactggg caagcatgga tgacatatta atatttgtca 400
 gaattaagtg actcaaagtg ctatcgagag gtttttcaag tatctttgag 450
 tttcatggcc aaagtgttaa ctagttttac tacaatgttt ggtgtttgtg 500
 tggaaattat ctgcctggct t 521
<210> 305
<211> 24
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 305
 ccaggaaatg ctccaggaag agcc 24
<210> 306
<211> 26
<212> DNA
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<223> Synthetic oligonucleotide probe
<400> 306
gcccatgaca ccaaattgaa gagtgg 26
<210> 307
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agtgaaaaag gtacaataaa ctttttacat gccgattgtg acaaatttag 1050

<210> 309

<211> 406

<212> PRT

<213> Homo sapiens

<400> 309

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Leu Leu Leu Val Thr Trp Val Phe Thr Pro Val Thr Thr Glu
20 25 30

Ile Thr Ser Leu Ala Thr Glu Asn Ile Asp Glu Ile Leu Asn Asn 35 40 45

Ala Asp Val Ala Leu Val Asn Phe Tyr Ala Asp Trp Cys Arg Phe 50 55 60

Ser Gln Met Leu His Pro Ile Phe Glu Glu Ala Ser Asp Val Ile 65 70 75

Lys Glu Glu Phe Pro Asn Glu Asn Gln Val Val Phe Ala Arg Val 80 85 90

Asp Cys Asp Gln His Ser Asp Ile Ala Gln Arg Tyr Arg Ile Ser 95 100 105

Lys Tyr Pro Thr Leu Lys Leu Phe Arg Asn Gly Met Met Lys 110 115 120

Arg Glu Tyr Arg Gly Gln Arg Ser Val Lys Ala Leu Ala Asp Tyr 125 130 135

Ile Arg Gln Gln Lys Ser Asp Pro Ile Gln Glu Ile Arg Asp Leu 140 145 150

Ala Glu Ile Thr Thr Leu Asp Arg Ser Lys Arg Asn Ile Ile Gly
155 160 165

Tyr	Phe	Glu	Gln	Lys 170	Asp	Ser	Asp	Asn	Tyr 175	Arg	Val	Phe	Glu	Arg 180
Val	Ala	Asn	Ile	Leu 185	His	Asp	Asp	Cys	Ala 190	Phe	Leu	Ser	Ala	Phe 195
Gly	Asp	Val	Ser	Lys 200	Pro	Glu	Arg	Tyr	Ser 205	Gly	Asp	Asn	Ile	Ile 210
Tyr	Lys	Pro	Pro	Gly 215	His	Ser	Ala	Pro	Asp 220	Met	Val	Tyr	Leu	Gly 225
Ala	Met	Thr	Asn	Phe 230	Asp	Val	Thr	Tyr	Asn 235	Trp	Ile	Gln	Asp	Lys 240
Суѕ	Val	Pro	Leu	Val 245	Arg	Glu	Ile	Thr	Phe 250	Glu	Asn	Gly	Glu	Glu 255
Leu	Thr	Glu	Glu	Gly 260	Leu	Pro	Phe	Leu	Ile 265	Leu	Phe	His	Met	Lys 270
Glu	Asp	Thr	Glu	Ser 275	Leu	Glu	Ile	Phe	Gln 280	Asn	Glu	Val	Ala	Arg 285
Gln	Leu	Ile	Ser	Glu 290	Lys	Gly	Thr	Ile	Asn 295	Phe	Leu	His	Ala	Asp 300
Cys	Asp	Lys	Phe	Arg 305	His	Pro	Leu	Leu	His 310	Ile	Gln	Lys	Thr	Pro 315
Ala	Asp	Cys	Pro	Val 320	Ile	Ala	Ile	Asp	Ser 325	Phe	Arg	His	Met	Tyr 330
Val	Phe	Gly	Asp	Phe 335	Lys	Asp	Val	Leu	Ile 340	Pro	Gly	Lys	Leu	Lys 345
Gln	Phe	Val	Phe	Asp 350	Leu	His	Ser	Gly	Lys 355	Leu	His	Arg	Glu	Phe 360
His	His	Gly	Pro	Asp 365	Pro	Thr	Asp	Thr	Ala 370	Pro	Gly	Glu	Gln	Ala 375
Gln	Asp	Val	Ala	Ser 380	Ser	Pro	Pro	Glu	Ser 385	Ser	Phe	Gln	Lys	Leu 390
Ala	Pro	Ser	Glu	Tyr 395	Arg	Tyr	Thr	Leu	Leu 400	Arg	Asp	Arg	Asp	Glu 405

Leu

<210> 310 <211> 182 <212> DNA <213> Homo sapiens

<220> <221> unsure

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caaccctcaa attgtttcgt aatgggatga tgatgaagag agaatacagg 150
ggtcagcgat cagtgaaagc attggcagat ta 182
<210> 311
<211> 598
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 38, 59, 140, 169, 174, 183, 282-283, 294-295, 319, 396
<223> unknown base
<400> 311
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 cggagcccag ccctttccta acccaaccca acctagcccn gtcccagccg 150
 ccagcgcctg tccctgtcnc ggancccagc gtnaccatgc atcctgccgt 200
 cttcctatcc ttacccgacc tcagatgctc ccttctgctc ctggtaactt 250
 gggtttttac tcctgtaaca actgaaataa cnngtcttga tacnnagaat 300
 atagatgaaa ttttaaacna tgctgatgtg gctttagtca atttttatgc 350
 tgactggtgt cgtttcagtc agatgtggca tccaattttt gaggangctt 400
 ccgatgtcat taaggaagaa tttccaaatg aaaatcaagt agtgtttgcc 450
 agagttgatt gtgatcagca ctctgacata gcccagagat acaggataag 500
 caaataccca accctcaaat tgtttcgtaa tgggatgatg atgaagagag 550
 aatacagggg tcagcgatca gtgaaagcat tggcagatta catcaggc 598
<210> 312
<211> 22
<212> DNA
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<223> Synthetic oligonucleotide probe
<400> 312
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    <223> Synthetic oligonucleotide probe
    <400> 313
    gtcagcgatc agtgaaagc 19
    <210> 314
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   <400> 314
    ccagaatgaa gtagctcggc 20
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L.
   <400> 315
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:;
ļ.
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    <211> 19
    <212> DNA
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    <223> Synthetic oligonucleotide probe
    <400> 316
    cattiggcag gaattgtcc 19
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    <400> 317
    ggtgctatag gccaaggg 18
    <210> 318
    <211> 24
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<223> Synthetic oligonucleotide probe
<400> 318
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<212> DNA
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ctacatataa tggcacatgt cagcc 25
<210> 320
<211> 46
<212> DNA
<213> Artificial Sequence
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cgtcttccta tccttacccg acctcagatg ctcccttctg ctcctg 46
<210> 321
<211> 1333
<212> DNA
<213> Homo sapiens
<400> 321
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 taccetgaat eccettgtac teccagagta ecteatecae getttettet 200
 gtgtcatgtt tctttgtgca gcagagtggc ttacactggg tctcaatatg 250
 cccctcttgg catatcatat ttggaggtat atgagtagac cagtgatgag 300
 tggcccagga ctctatgacc ctacaaccat catgaatgca gatattctag 350
 catattgtca gaaggaagga tggtgcaaat tagcttttta tcttctagca 400
 tttttttact acctatatgg catgatctat gttttggtga gctcttagaa 450
 caacacacag aagaattggt ccagttaagt gcatgcaaaa agccaccaaa 500
 tgaagggatt ctatccagca agatcctgtc caagagtagc ctgtggaatc 550
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tgatcagtta ctttaaaaaa tgactcctta ttttttaaat gtttccacat 600 ttttgcttgt ggaaagactg ttttcatatg ttatactcag ataaagattt 650 taaatggtat tacgtataaa ttaatataaa atgattacct ctggtgttga 700 caggtttgaa cttgcacttc ttaaggaaca gccataatcc tctgaatgat 750 gcattaatta ctgactgtcc tagtacattg gaagcttttg tttataggaa 800 cttgtagggc tcattttggt ttcattgaaa cagtatctaa ttataaatta 850 gctgtagata tcaggtgctt ctgatgaagt gaaaatgtat atctgactag 900 tgggaaactt catgggtttc ctcatctgtc atgtcgatga ttatatatgg 950 atacatttac aaaaataaaa agcgggaatt ttcccttcgc ttgaatatta 1000 tccctgtata ttgcatgaat gagagatttc ccatatttcc atcagagtaa 1050 taaatatact tgctttaatt cttaagcata agtaaacatg atataaaaat 1100 atatgctgaa ttacttgtga agaatgcatt taaaagctatt ttaaatgtgt 1150 ttttatttgt aagacattac ttattaagaa attggttatt atgcttactg 1200 ttctaatctg gtggtaaagg tattcttaag aatttgcagg tactacagat 1250 tttcaaaact qaatqaqaqa aaattgtata accatcctgc tgttccttta 1300 gtgcaataca ataaaactct gaaattaaga ctc 1333

<210> 322

<211> 144

<212> PRT

<213> Homo sapiens

<400> 322

Met Ala Phe Thr Phe Ala Ala Phe Cys Tyr Met Leu Ala Leu Leu 1 5 10 15

Leu Thr Ala Ala Leu Ile Phe Phe Ala Ile Trp His Ile Ile Ala 20 25 30

Phe Asp Glu Leu Lys Thr Asp Tyr Lys Asn Pro Ile Asp Gln Cys 35 40 45

Asn Thr Leu Asn Pro Leu Val Leu Pro Glu Tyr Leu Ile His Ala 50 55 60

Phe Phe Cys Val Met Phe Leu Cys Ala Ala Glu Trp Leu Thr Leu 65 70 75

Gly Leu Asn Met Pro Leu Leu Ala Tyr His Ile Trp Arg Tyr Met
80 85 90

Ser Arg Pro Val Met Ser Gly Pro Gly Leu Tyr Asp Pro Thr Thr 95 100 105

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Ile Met Asn Ala Asp Ile Leu Ala Tyr Cys Gln Lys Glu Gly Trp
 Cys Lys Leu Ala Phe Tyr Leu Leu Ala Phe Phe Tyr Tyr Leu Tyr
                 125
                                      130
                                                          135
 Gly Met Ile Tyr Val Leu Val Ser Ser
                 140
<210> 323
<211> 477
<212> DNA
<213> Homo sapiens
<400> 323
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 atatgcccct cttggcatat catatttgga ggtatatgag tagaccagtg 200
 atgagtggcc caggactcta tgaccctaca accatcatga atgcagatat 250
 tctagcatat tgtcagaagg aaggatggtg caaattagct ttttatcttc 300
 tagcattttt ttactaccta tatggcatga tctatgtttt ggtgagctct 350
 tagaacaaca cacagaagaa ttggtccagt taagtgcatg caaaaagcca 400
 ccaaatgaag ggattctatc cagcaagatc ctgtccaaga gtagcctgtg 450
 gaatctgatc agttacttta aaaaatg 477
<210> 324
<211> 43
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 324
tgtaaaacga cggccagtta aatagacctg caattattaa tct 43
<210> 325
<211> 41
<212> DNA
<213> Artificial Sequence
<220>
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<400> 325
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<210> 326
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<210> 327
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<220>
<223> Synthetic oligonucleotide probe
<400> 327
actggaccaa ttcttctgtg 20
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<211> 45
<212> DNA
<213> Artificial Sequence
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<210> 329
<211> 1174
<212> DNA
<213> Homo sapiens
<400> 329
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 tqtqacagaq qqgaacaaga tqqcqqccc gaaqqqqaqc ctctqqqtga 100
 ggacccaact ggggctcccg ccgctgctgc tgctgaccat ggccttggcc 150
 ggaggttcgg ggaccgcttc ggctgaagca tttgactcgg tcttgggtga 200
 tacggcgtct tgccaccggg cctgtcagtt gacctacccc ttgcacacct 250
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 ggaatgtgaa tctgcatgta cagaagcata ttcccaatct gatgagcaat 400
 atgcttgcca tcttggttgc cagaatcagc tgccattcgc tgaactgaga 450
 caagaacaac ttatgtccct gatgccaaaa atgcacctac tctttcctct 500
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aactetggtg aggteattet ggagtgacat gatggactee geacagaget 550 teataacete tteatggaet ttttatette aageegatga eggaaaaata 600 gttatattee agtetaagee agaaateeag taegeaceae atttggagea 650 ggageetaca aatttgagag aateatetet aageaaaatg teetatetge 700 aaatgagaaa tteacaageg eacaggaatt ttettgaaga tggagaaagt 750 gatggettt taagatgeet etetetaae tetgggtgga ttttaactae 800 aaetettgte eteteggtga tggtattget ttggatttgt tgtgeaactg 850 ttgetacage tgtggageag tatgteeet etgagaaget gagtatetat 900 ggtgaettgg agttatgaa tgaacaaaag etaaacagat ateeagette 950 tteetettgtg gttgttagat etaaaactga agateatgaa gaageaggge 1000 etetacetae aaaagtgaat ettgeteatt etgaaatta ageatttte 1050 ttttaaaaag eaagtgtaat agacatetaa aateeacee eteaaaactg 1150 eaaataaagt taeteaaate tgtg 1174

<210> 330 <211> 323 <212> PRT

<213> Homo sapiens

<400> 330

Met Ala Ala Pro Lys Gly Ser Leu Trp Val Arg Thr Gln Leu Gly
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Leu Pro Pro Leu Leu Leu Thr Met Ala Leu Ala Gly Gly Ser 20 25 30

Gly Thr Ala Ser Ala Glu Ala Phe Asp Ser Val Leu Gly Asp Thr 35 40 45

Ala Ser Cys His Arg Ala Cys Gln Leu Thr Tyr Pro Leu His Thr 50 55 60

Tyr Pro Lys Glu Glu Glu Leu Tyr Ala Cys Gln Arg Gly Cys Arg
65 70 75

Leu Phe Ser Ile Cys Gln Phe Val Asp Asp Gly Ile Asp Leu Asn 80 85 90

Arg Thr Lys Leu Glu Cys Glu Ser Ala Cys Thr Glu Ala Tyr Ser  $95 \hspace{1cm} 100 \hspace{1cm} 105$ 

Gln Ser Asp Glu Gln Tyr Ala Cys His Leu Gly Cys Gln Asn Gln 110 115 120

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Leu Pro Phe Ala Glu Leu Arg Gln Glu Gln Leu Met Ser Leu Met
Pro Lys Met His Leu Leu Phe Pro Leu Thr Leu Val Arg Ser Phe
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                                    145
Trp Ser Asp Met Met Asp Ser Ala Gln Ser Phe Ile Thr Ser Ser
Trp Thr Phe Tyr Leu Gln Ala Asp Asp Gly Lys Ile Val Ile Phe
Gln Ser Lys Pro Glu Ile Gln Tyr Ala Pro His Leu Glu Glu Glu
Pro Thr Asn Leu Arg Glu Ser Ser Leu Ser Lys Met Ser Tyr Leu
                200
                                    205
Gln Met Arg Asn Ser Gln Ala His Arg Asn Phe Leu Glu Asp Gly
                215
                                    220
Glu Ser Asp Gly Phe Leu Arg Cys Leu Ser Leu Asn Ser Gly Trp
                230
                                    235
Ile Leu Thr Thr Leu Val Leu Ser Val Met Val Leu Leu Trp
                245
                                    250
Ile Cys Cys Ala Thr Val Ala Thr Ala Val Glu Gln Tyr Val Pro
                                    265
Ser Glu Lys Leu Ser Ile Tyr Gly Asp Leu Glu Phe Met Asn Glu
                                    280
Gln Lys Leu Asn Arg Tyr Pro Ala Ser Ser Leu Val Val Val Arg
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Ser Lys Thr Glu Asp His Glu Glu Ala Gly Pro Leu Pro Thr Lys
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Val Asn Leu Ala His Ser Glu Ile
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<210> 331

<211> 350

<212> DNA

<213> Homo sapiens

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<211> 562
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 47
<223> unknown base
<400> 332
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 aaacagcaac aagctgagct gctgtgacag agggaacaag atggcggcgc 100
 cgaagggagc ctttgggtga ggacccaact ggggctcccg ccgctgctgc 150
 tgctgaccat ggccttggcc ggaggttcgg ggaccgcttc ggctgaagca 200
 tttgactcgg tcttgggtga tacggcgtct tgccaccggg cctgtcagtt 250
 gacctacccc ttgcacacct accctaagga agaggagttg tacgcatgtc 300
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 gacttaaatc gaactaaatt ggaatgtgaa tctgcatgta cagaagcata 400
 ttcccaatct gatgagcaat atgcttgcca tcttggttgc cagaatcagc 450
 tgccattcgc tgaactgaga caagaacaac ttatgtccct gatgccaaaa 500
 atgcacctac tctttcctct aactctggtg aggtcattct ggagtgacat 550
 gatggactcc gc 562
<210> 333
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
-<223> Synthetic oligonucleotide probe
<400> 333
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<210> 334
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
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<400> 334
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<210> 335
<211> 40
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<223> Synthetic oligonucleotide probe
<400> 335
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<210> 336
<211> 1885
<212> DNA
<213> Homo sapiens
<400> 336
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 agggcgcacg gcccgcgacc gagcgtgcgg actggcctcc caagcgtggg 150
 gcgacaagct gccggagctg caatgggccg cggctgggga ttcttgtttg 200
 gcctcctggg cgccgtgtgg ctgctcagct cgggccacgg agaggagcag 250
 cccccggaga cagcggcaca gaggtgcttc tgccaggtta gtggttactt 300
 ggatgattgt acctgtgatg ttgaaaccat tgatagattt aataactaca 350
 ggcttttccc aagactacaa aaacttcttg aaagtgacta ctttaggtat 400
 tacaaggtaa acctgaagag gccgtgtcct ttctggaatg acatcagcca 450
 gtgtggaaga agggactgtg ctgtcaaacc atgtcaatct gatgaagttc 500
 ctgatggaat taaatctgcg agctacaagt attctgaaga agccaataat 550
 ctcattgaag aatgtgaaca agctgaacga cttggagcag tggatgaatc 600
 tctgagtgag gaaacacaga aggctgttct tcagtggacc aagcatgatg 650
 attcttcaga taacttctgt gaagctgatg acattcagtc ccctgaagct 700
 gaatatgtag atttgcttct taatcctgag cgctacactg gttacaaggg 750
 accagatgct tggaaaatat ggaatgtcat ctacgaagaa aactgtttta 800
 agccacagac aattaaaaga cctttaaatc ctttggcttc tggtcaaggg 850
 acaagtgaag agaacacttt ttacagttgg ctagaaggtc tctgtgtaga 900
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aaaaagagca ttctacagac ttatatctgg cctacatgca agcattaatg 950

tggggacaca acattacaga atttcaacag cgatttgatg gaattttgac 1050 tgaaggagaa ggtccaagaa ggcttaagaa cttgtatttt ctctacttaa 1100 tagaactaag ggctttatcc aaagtgttac cattcttcga gcgcccagat 1150 tttcaactct ttactggaaa taaaattcag gatgaggaaa acaaaatgtt 1200 acttctggaa atacttcatg aaatcaagtc atttcctttg cattttgatg 1250 agaattcatt ttttqctqqq qataaaaaaq aagcacacaa actaaaggag 1300 gactttcgac tgcattttag aaatatttca agaattatgg attgtgttgg 1350 ttqttttaaa tqtcqtctqt qqqqaaaqct tcagactcag qqtttgggca 1400 ctqctctgaa gatcttattt tctgagaaat tgatagcaaa tatgccagaa 1450 agtggaccta gttatgaatt ccatctaacc agacaagaaa tagtatcatt 1500 attcaacgca tttggaagaa tttctacaag tgtgaaagaa ttagaaaact 1550 tcaggaactt gttacagaat attcattaaa gaaaacaagc tgatatgtgc 1600 ctgtttctgg acaatggagg cgaaagagtg gaatttcatt caaaggcata 1650 atagcaatga cagtottaag ccaaacattt tatataaagt tgcttttgta 1700 aaggagaatt atattgtttt aagtaaacac atttttaaaa attgtgttaa 1750 gtctatgtat aatactactg tgagtaaaag taatacttta ataatgtggt 1800 acaaatttta aagtttaata ttgaataaaa ggaggattat caaattaaaa 1850 aaaaaaaaaa aaaaaaaaa aaaaa 1885

<210> 337

<211> 468

<212> PRT

<213> Homo sapiens

<400> 337

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Ala Ala Gln Arg Cys Phe Cys Gln Val Ser Gly Tyr Leu Asp Asp 35 40 45

Cys Thr Cys Asp Val Glu Thr Ile Asp Arg Phe Asn Asn Tyr Arg
50 55 60

Leu Phe Pro Arg Leu Gln Lys Leu Leu Glu Ser Asp Tyr Phe Arg 65 70 75

Tyr	Tyr	Lys	Val	Asn 80	Leu	Lys	Arg	Pro	Cys 85	Pro	Phe	Trp	Asn	Asp 90
Ile	Ser	Gln	Cys	Gly 95	Arg	Arg	Asp	Cys	Ala 100	Val	Lys	Pro	Cys	Gln 105
Ser	Asp	Glu	Val	Pro 110	Asp	Gly	Ile	Lys	Ser 115	Ala	Ser	Tyr	Lys	Tyr 120
Ser	Glu	Glu	Ala	Asn 125	Asn	Leu	Ile	Glu	Glu 130	Cys	Glu	Gln	Ala	Glu 135
Arg	Leu	Gly	Ala	Val 140	Asp	Glu	Ser	Leu	Ser 145	Glu	Glu	Thr	Gln	Lys 150
Ala	Val	Leu	Gln	Trp 155	Thr	Lys	His	Asp	Asp 160	Ser	Ser	Asp	Asn	Phe 165
Cys	Glu	Ala	Asp	Asp 170	Ile	Gln	Ser	Pro	Glu 175	Ala	Glu	Tyr	Val	Asp 180
Leu	Leu	Leu	Asn	Pro 185	Glu	Arg	Tyr	Thr	Gly 190	Tyr	Lys	Gly	Pro	Asp 195
Ala	Trp	Lys	Ile	Trp 200	Asn	Val	Ile	Tyr	Glu 205	Glu	Asn	Cys	Phe	Lys 210
Pro	Gln	Thr	Ile	Lys 215	Arg	Pro	Leu	Asn	Pro 220	Leu	Ala	Ser	Gly	Gln 225
Gly	Thr	Ser	Glu	Glu 230	Asn	Thr	Phe	Tyr	Ser 235	Trp	Leu	Glu	Gly	Leu 240
Cys	Val	Glu	Lys	Arg 245	Ala	Phe	Tyr	Arg	Leu 250	Ile	Ser	Gly	Leu	His 255
Ala	Ser	Ile	Asn	Val 260	His	Leu	Ser	Ala	Arg 265	Tyr	Leu	Leu	Gln	Glu 270
Thr	Trp	Leu	Glu	Lys 275	Lys	Trp	Gly	His	Asn 280	Ile	Thr	Glu	Phe	Gln 285
Gln	Arg	Phe	Asp	Gly 290	Ile	Leu	Thr	Glu	Gly 295	Glu	Gly	Pro	Arg	Arg 300
Leu	Lys	Asn	Leu	Tyr 305	Phe	Leu	Tyr	Leu	Ile 310	Glu	Leu	Arg	Ala	Leu 315
Ser	Lys	Val	Leu	Pro 320	Phe	Phe	Glu	Arg	Pro 325	Asp	Phe	Gln	Leu	Phe 330
Thr	Gly	Asn	Lys	Ile 335	Gln	Asp	Glu	Glu	Asn 340	Lys	Met	Leu	Leu	Leu 345
Glu	Ile	Leu	His	Glu 350	Ile	Lys	Ser	Phe	Pro 355	Leu	His	Phe	Asp	Glu 360
Asn	Ser	Phe	Phe	Ala	Gly	Asp	Lys	Lys	Glu	Ala	His	Lys	Leu	Lys

370 375 365 Glu Asp Phe Arg Leu His Phe Arg Asn Ile Ser Arg Ile Met Asp Cys Val Gly Cys Phe Lys Cys Arg Leu Trp Gly Lys Leu Gln Thr 400 Gln Gly Leu Gly Thr Ala Leu Lys Ile Leu Phe Ser Glu Lys Leu 410 Ile Ala Asn Met Pro Glu Ser Gly Pro Ser Tyr Glu Phe His Leu 425 430 Thr Arg Gln Glu Ile Val Ser Leu Phe Asn Ala Phe Gly Arg Ile 445 Ser Thr Ser Val Lys Glu Leu Glu Asn Phe Arg Asn Leu Leu Gln 455

Asn Ile His

<210> 338 <211> 507 <212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 101, 263, 376, 397, 426

<223> unknown base

<400> 338

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<210> 339 <211> 20

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<210> 340
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<400> 340
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<210> 341
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<400> 342
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<210> 343
<211> 25
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<400> 343
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<212> DNA
<213> Artificial Sequence
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<210> 345
<211> 1486
<212> DNA
<213> Homo sapiens
<400> 345
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 ttaacctgga tgaacatcac ccacqcctat tcccagggcc accagaagct 250
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 aaggctgagt acttgqttcc cagaaggaga tactgggtgg gaaaaagatg 900
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 catggtgaaa ctccatctct actaaaaaaa aaaaaataca aaaattagct 1150
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<210> 346

<211> 124

<212> PRT

<213> Homo sapiens

<400> 346

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Leu Thr Gly Leu Cys Ser Pro Phe Asn Leu Asp Glu His His Pro  $20 \\ 25 \\ 30$ 

Arg Leu Phe Pro Gly Pro Pro Glu Ala Glu Phe Gly Tyr Ser Val
35 40 45

Leu Gln His Val Gly Gly Gly Gln Arg Trp Met Leu Val Gly Ala 50 55 60

Pro Trp Asp Gly Pro Ser Gly Asp Arg Arg Gly Asp Val Tyr Arg 65 70 75

Cys Pro Val Gly Gly Ala His Asn Ala Pro Cys Ala Lys Gly His 80 85 90

Leu Gly Asp Tyr Gln Leu Gly Asn Ser Ser His Pro Ala Val Asn 95 100 105

Met His Leu Gly Met Ser Leu Leu Glu Thr Asp Gly Asp Gly Gly 110 115 120

Phe Met Val Ser

<210> 347

<211> 509

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 22

<223> unknown base

<400> 347

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   ggcatggaac teceettegt cacteacetg ttettgeece tggtgtteet 200
   gacaggtete tgetececet ttaacetgga tgaacateae ceaegeetat 250
   teccagggee accagaaget gaatttggat acagtgtett acaacatgtt 300
   gggggtggac agcgatggat gctggtgggc gccccctggg atgggccttc 350
   aggcgaccgg aggggggacg tttatcgctg ccctgtaggg ggggcccaca 400
   atgccccatg tgccaagggc cacttaggtg actaccaact gggaaattca 450
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   tggtgatgg 509
<sup>|</sup> <210> 348
<211> 23
212> DNA
<213> Artificial Sequence
  <220>
  <223> Synthetic oligonucleotide probe
<400> 348
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  <210> 349
  <211> 24
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   <223> Synthetic oligonucleotide probe
   <400> 349
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   <210> 350
   <211> 45
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   <210> 351
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Thr Asn Met Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro 50

Gly Glu Thr Val Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu

Ser Leu Tyr Thr Ser His Ile Trp Ile Pro Ser Ser Trp Cys Ser

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Val Pro Gly Pro Pro Phe Trp Gly Leu Val Asn Ala Ala Trp Ser 50 55 60

Leu Cys Ala Val Gly Lys Arg Gln Ser Pro Val Asp Val Glu Leu 65 70 75

Lys Arg Val Leu Tyr Asp Pro Phe Leu Pro Pro Leu Arg Leu Ser 80 85 90

Thr Gly Gly Glu Lys Leu Arg Gly Thr Leu Tyr Asn Thr Gly Arg
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Gly Gly Pro Leu Leu Tyr Ser His Arg Leu Ser Glu Leu Arg Leu 125 130 135

Leu Phe Gly Ala Arg Asp Gly Ala Gly Ser Glu His Gln Ile Asn 140 145 150

His Gln Gly Phe Ser Ala Glu Val Gln Leu Ile His Phe Asn Gln 155 160 165

Glu Leu Tyr Gly Asn Phe Ser Ala Ala Ser Arg Gly Pro Asn Gly

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Trp Trp Ile Ala Lys Gln Arg Gly Lys Arg Ala Ile Thr Asp Asn 50 55 60

Asp Met Gln Ser Ile Leu Asp Leu His Asn Lys Leu Arg Ser Gln 65 70 75

Val Tyr Pro Thr Ala Ser Asn Met Glu Tyr Met Thr Trp Asp Val 80 85 90

Glu Leu Glu Arg Ser Ala Glu Ser Trp Ala Glu Ser Cys Leu Trp 95 100 105

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Gly Ala His Trp Gly Arg Tyr Arg Pro Pro Thr Phe His Val Gln 125 130 135

Ser Trp Tyr Asp Glu Val Lys Asp Phe Ser Tyr Pro Tyr Glu His 140 145 150

Glu Cys Asn Pro Tyr Cys Pro Phe Arg Cys Ser Gly Pro Val Cys 155 160 165

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Ile Arg Tyr Ser Asp Val Lys Lys Leu Glu Met Lys Pro Lys Tyr
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Pro His Cys Glu Glu Lys Met Val Ile Ile Thr Thr Lys Ser Val 65 70 75

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Glu Ile Leu Gly Pro Val Glu Gln Tyr Leu Gly Val Pro Tyr Ala

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Lys	Pro	Ser	Trp	Ala 485	Asp	Ser	Ala	His	Gly 490	Asp	Glu	Val	Pro	Tyr 495
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Pro	Gln	Asp	Thr	Lys 545	Phe	Ile	His	Thr	Lys 550	Pro	Asn	Arg	Phe	Glu 555
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Gly Lys Lys Asn Leu His Gly Asp Gly Leu Ala Ile Trp Tyr Thr 125 130 135

Lys Asp Arg Met Gln Pro Gly Pro Val Phe Gly Asn Met Asp Lys 140 145

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Asn Gly Ser Leu Ser Tyr Asp His Glu Arg Asp Gly Arg Pro Thr 185 190 195

Glu Leu Gly Gly Cys Thr Ala Ile Val Arg Asn Leu His Tyr Asp 200 205 210

Thr Phe Leu Val Ile Arg Tyr Val Lys Arg His Leu Thr Ile Met 215 220 225

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Asp Lys Val Leu Gly Gly His Glu Cys Gln Pro His Ser Gln Pro 35 40 45

Trp Gln Ala Ala Leu Phe Gln Gly Gln Gln Leu Leu Cys Gly Gly 50 55 60

Val Leu Val Gly Gly Asn Trp Val Leu Thr Ala Ala His Cys Lys
65 70 75

Lys Pro Lys Tyr Thr Val Arg Leu Gly Asp His Ser Leu Gln Asn 80 85 90

Lys Asp Gly Pro Glu Gln Glu Ile Pro Val Val Gln Ser Ile Pro 95 100 105

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His Pro Cys Tyr Asn Ser Ser Asp Val Glu Asp His Asn His Asp
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    Val Lys Pro Ile Ser Leu Ala Asp His Cys Thr Gln Pro Gly Gln
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                                        160
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    Gln Lys Lys Cys Glu Asp Ala Tyr Pro Gly Gln Ile Thr Asp Gly
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   Asp Ser Gly Gly Pro Leu Val Cys Asp Gly Ala Leu Gln Gly Ile
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Leu Trp Leu Gln Ala Trp Gln Val Ala Ala Pro Cys Pro Gly Ala 20 25 30

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Arg	Gly	Leu	Ala	Ala 155	Leu	Gln	Tyr	Leu	Tyr 160	Leu	Gln	Asp	Asn	Ala 165
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Thr	His	Leu	Phe	Leu 185	His	Gly	Asn	Arg	Ile 190	Ser	Ser	Val	Pro	Glu 195
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Gln	Asn	Arg	Val	Ala 215	His	Val	His	Pro	His 220	Ala	Phe	Arg	Asp	Leu 225
Gly	Arg	Leu	Met	Thr 230	Leu	Tyr	Leu	Phe	Ala 235	Asn	Asn	Leu	Ser	Ala 240
Leu	Pro	Thr	Glu	Ala 245	Leu	Ala	Pro	Leu	Arg 250	Ala	Leu	Gln	Tyr	Leu 255
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Pro	Суз	Ser	Leu	Pro 290	Gln	Arg	Leu	Ala	Gly 295	Arg	Asp	Leu	Lys	Arg 300
Leu	Ala	Ala	Asn	Asp 305	Leu	Gln	Gly	Cys	Ala 310	Val	Ala	Thr	Gly	Pro 315
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Val Thr Asn Leu Ala Lys Asp Leu Gly Leu Glu Gln Arg Glu Phe 50 55 60

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65 70 75

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Leu Asp Arg Glu Asp Leu Cys Gly His Thr Glu Pro Cys Val Leu 95 100 105

Arg Phe Gln Val Leu Leu Glu Ser Pro Phe Glu Phe Phe Gln Ala 110 115 120

Glu Leu Gln Val Ile Asp Ile Asn Asp His Ser Pro Val Phe Leu 125 130 135

Asp Lys Gln Met Leu Val Lys Val Ser Glu Ser Ser Pro Pro Gly
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Thr Thr Phe Pro Leu Lys Asn Ala Glu Asp Leu Asp Val Gly Gln
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Val Leu Thr Arg Lys Arg Ser Asp Gly Arg Lys Tyr Pro Glu Leu 185 190 195

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Pro	His	Leu	Pro	Leu 500	Thr	Ser	Leu	Val	Ser 505	Ile	Asn	Ala	Asp	Asn 510
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Asn Ile Gln

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Glu Gln Pro Ala His Pro Leu Gln Val Gly Ala Val Tyr Leu Gly

Glu Glu Glu Leu Leu His Asp Pro Met Gly Gln Asp Arg Ala Ala

Glu Glu Ala Asn Ala Val Leu Gly Leu Asp Thr Gln Gly Asp His

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Ala	Gly	Ala	His	Phe 140	Pro	Asp	Arg	Glu	Glu 145	Glu	Tyr	Tyr	Thr	Glu 150
Pro	Glu	Val	Ala	Glu 155	Ser	Asp	Ala	Ala	Pro 160	Thr	Glu	Asp	Ser	Asn 165
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Asn	Ile	Thr	Gly	Leu 185	Glu	Asn	Phe	Thr	Leu 190	Lys	Ile	Leu	Asn	Met 195
Ser	Gln	Asp	Leu	Met 200	Asp	Phe	Leu	Asn	Pro 205	Asn	Gly	Ser	Asp	Cys 210
Thr	Leu	Val	Leu	Phe 215	Tyr	Thr	Pro	Trp	Cys 220	Arg	Phe	Ser	Ala	Ser 225
Leu	Ala	Pro	His	Phe 230	Asn	Ser	Leu	Pro	Arg 235	Ala	Phe	Pro	Ala	Leu 240
His	Phe	Leu	Ala	Leu 245	Asp	Ala	Ser	Gln	His 250	Ser	Ser	Leu	Ser	Thr 255
Arg	Phe	Gly	Thr	Val 260	Ala	Val	Pro	Asn	Ile 265	Leu	Leu	Phe	Gln	Gly 270
Ala	Lys	Pro	Met	Ala 275	Arg	Phe	Asn	His	Thr 280	Asp	Arg	Thr	Leu	Glu 285
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Lys	Asn	Val	Val	Val 305	Thr	Gln	Ala	Asp	Gln 310	Ile	Gly	Pro	Leu	Pro 315
Ser	Thr	Leu	Ile	Lys 320	Ser	Val	Asp	Trp	Leu 325	Leu	Val	Phe	Ser	Leu 330
Phe	Phe	Leu	Ile	Ser 335	Phe	Ile	Met	Tyr	Ala 340	Thr	Ile	Arg	Thr	Glu 345
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<211> 295

<212> PRT

<213> Homo sapiens

<400> 415

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His Cys Cys Leu Gly Ser Ala Arg Gly Leu Phe Leu Phe Gly Gln

Pro Asp Phe Ser Tyr Lys Arg Ser Asn Cys Lys Pro Ile Pro Val

Asn Leu Gln Leu Cys His Gly Ile Glu Tyr Gln Asn Met Arg Leu

Pro Asn Leu Gly His Glu Thr Met Lys Glu Val Leu Glu Gln

Ala Gly Ala Trp Ile Pro Leu Val Met Lys Gln Cys His Pro Asp

Thr Lys Lys Phe Leu Cys Ser Leu Phe Ala Pro Val Cys Leu Asp 100

Asp Leu Asp Glu Thr Ile Gln Pro Cys His Ser Leu Cys Val Gln 115

Val Lys Asp Arg Cys Ala Pro Val Met Ser Ala Phe Gly Phe Pro 125 130 135

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Trp Pro Asp Met Leu Glu Cys Asp Arg Phe Pro Gln Asp Asn Asp
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    Glu Glu Ala Pro Lys Val Cys Glu Ala Cys Lys Asn Lys Asn Asp
                                        175
   Asp Asp Asn Asp Ile Met Glu Thr Leu Cys Lys Asn Asp Phe Ala
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                                        190
   Leu Lys Ile Lys Val Lys Glu Ile Thr Tyr Ile Asn Arg Asp Thr
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                                        205
   Lys Ile Ile Leu Glu Thr Lys Ser Lys Thr Ile Tyr Lys Leu Asn
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                                        220
   Gly Val Ser Glu Arg Asp Leu Lys Lys Ser Val Leu Trp Leu Lys
                                        235
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ļ.
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<211> 560

<212> PRT

<213> Homo sapiens

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35 40 45

Leu Trp Leu Ser Phe Ala Pro Val Ala Asp Val Ile Ala Glu Asp 50 55 60

Leu Val Leu Ser Met Glu Gln Ile Asn Trp Leu Ser Leu Val Tyr
65 70 75

Leu Val Val Ser Thr Pro Phe Gly Val Ala Ala Ile Trp Ile Leu
80 85

Asp Ser Val Gly Leu Arg Ala Ala Thr Ile Leu Gly Ala Trp Leu 95 100 105

Asn Phe Ala Gly Ser Val Leu Arg Met Val Pro Cys Met Val Val

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Thr	Ile	Cys	Leu	Trp 215	Glu	Ser	Val	Pro	Pro 220	Thr	Pro	Pro	Ser	Ala 225
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Leu	Gln	Leu	Met	Trp 245	Asn	Lys	Ala	Tyr	Val 250	Ile	Leu	Ala	Val	Cys 255
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				275					280				Ser	285
Leu	Cys	Gly	Ala	Leu 290	Phe	Ile	Thr	Phe	Gly 295	Ile	Leu	Gly	Ala	Leu 300
Ala	Leu	Gly	Pro	Tyr 305	Val	Asp	Arg	Thr	Lys 310	His	Phe	Thr	Glu	Ala 315
Thr	Lys	Ile	Gly	Leu 320	Cys	Leu	Phe	Ser	Leu 325	Ala	Cys	Val	Pro	Phe 330
Ala	Leu	Val	Ser	Gln 335	Leu	Gln	Gly	Gln	Thr 340	Leu	Ala	Leu	Ala	Ala 345
Thr	Суз	Ser	Leu	Leu 350	Gly	Leu	Phe	Gly	Phe 355	Ser	Val	Gly	Pro	Val 360
Ala	Met	Glu	Leu	Ala 365	Val	Glu	Cys	Ser	Phe 370	Pro	Val	Gly	Glu	Gly 375
Ala	Ala	Thr	Gly	Met 380	Ile	Phe	Val	Leu	Gly 385	Gln	Ala	Glu	Gly	Ile 390
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<211> 1184

<212> PRT

<213> Homo sapiens

<400> 425

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Ile Gly Lys Leu Ser Gln Glu Leu Gly Arg Glu Glu Arg Arg 50 55 60

Gln Ala Gly Ala Ala Phe Gln Val Leu Gln Leu Pro Gln Ala Leu
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Pro Ile Gln Val Asp Ser Glu Glu Gly Leu Leu Ser Thr Gly Arg 80 85 90

Arg Leu Asp Arg Glu Gln Leu Cys Arg Gln Trp Asp Pro Cys Leu 95 100 105

Val Ser Phe Asp Val Leu Ala Thr Gly Asp Leu Ala Leu Ile His 110 115 120

Val Glu Ile Gln Val Leu Asp Ile Asn Asp His Gln Pro Arg Phe 125 130 135

Pro Lys Gly Glu Gln Glu Leu Glu Ile Ser Glu Ser Ala Ser Leu 140 145 150

Arg Thr Arg Ile Pro Leu Asp Arg Ala Leu Asp Pro Asp Thr Gly
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Pro Asn Thr Leu His Thr Tyr Thr Leu Ser Pro Ser Glu His Phe 170 175 180

Ala Leu Asp Val Ile Val Gly Pro Asp Glu Thr Lys His Ala Glu 185 190 195

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Суз	Leu	Ala	Val	Leu 725	Leu	Gly	Ile	Phe	Gly 730	Leu	Ile	Leu	Ala	Leu 735
Phe	Met	Ser	Ile	Cys 740	Arg	Thr	Glu	Lys	Lys 745	Asp	Asn	Arg	Ala	Tyr 750
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Pro	Gln	Lys	His	Ile 770	Gln	Lys	Ala	Asp	Ile 775	His	Leu	Val	Pro	Val 780

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Pro Glu Leu Ser Pro Thr Gly Thr Arg Leu Ala Ser Thr Phe Val 1100 1105 1110

Ser Glu Met Ser Ser Leu Leu Glu Met Leu Glu Glu Gln Arg Ser 1115 1120 1125

Ser Met Pro Val Glu Ala Ala Ser Glu Ala Leu Arg Arg Leu Ser 1130 1135 1140

Val Cys Gly Arg Thr Leu Ser Leu Asp Leu Ala Thr Ser Ala Ala 1145 1150 1155

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Val Thr Phe Ala Phe Ser Cys Thr Met Phe Glu Leu Ile Ile Phe

Glu Ile Leu Gly Val Leu Asn Ser Ser Ser Arg Tyr Phe His Trp

Lys Met Asn Leu Cys Val Ile Leu Leu Ile Leu Val Phe Met Val

Pro Phe Tyr Ile Gly Tyr Phe Ile Val Ser Asn Ile Arg Leu Leu 100

His Lys Gln Arg Leu Leu Phe Ser Cys Leu Leu Trp Leu Thr Phe 110 115 120

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Pro Lys His	Gly Ile 140	Leu	Ser	Ile	Glu	Gln 145	Leu	Ile	Ser	Arg	Val 150
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Tyr Arg Thi	: Ile Ile	Thr	Glu	Val	Leu	Gly	Glu	Leu	Gln	Phe	Asn

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Ser	Gly	Glu	Arg	Leu 320	Thr	Ser	Gly	Phe	Gly 325	Tyr	Ser	Leu	Ala	Val 330
Ala	Asp	Leu	Asn	Ser 335	Asp	Gly	Trp	Pro	Asp 340	Leu	Ile	Val	Gly	Ala 345
Pro	Tyr	Phe	Phe	Glu 350	Arg	Gln	Glu	Glu	Leu 355	Gly	Gly	Ala	Val	Tyr 360
Val	Tyr	Leu	Asn	Gln	Gly	Gly	His	Trp	Ala	Gly	Ile	Ser	Pro	Leu

Arg Leu Cys Gly Ser Pro Asp Ser Met Phe Gly Ile Ser Leu Ala Val Leu Gly Asp Leu Asn Gln Asp Gly Phe Pro Asp Ile Ala Val 395 Gly Ala Pro Phe Asp Gly Asp Gly Lys Val Phe Ile Tyr His Gly 410 Ser Ser Leu Gly Val Val Ala Lys Pro Ser Gln Val Leu Glu Gly 435 425 Glu Ala Val Gly Ile Lys Ser Phe Gly Tyr Ser Leu Ser Gly Ser Leu Asp Met Asp Gly Asn Gln Tyr Pro Asp Leu Leu Val Gly Ser Leu Ala Asp Thr Ala Val Leu Phe Arg Ala Arg Pro Ile Leu His Val Ser His Glu Val Ser Ile Ala Pro Arg Ser Ile Asp Leu Glu Gln Pro Asn Cys Ala Gly Gly His Ser Val Cys Val Asp Leu Arg Val Cys Phe Ser Tyr Ile Ala Val Pro Ser Ser Tyr Ser Pro Thr Val Ala Leu Asp Tyr Val Leu Asp Ala Asp Thr Asp Arg Arg Leu Arg Gly Gln Val Pro Arg Val Thr Phe Leu Ser Arg Asn Leu Glu Glu Pro Lys His Gln Ala Ser Gly Thr Val Trp Leu Lys His Gln His Asp Arg Val Cys Gly Asp Ala Met Phe Gln Leu Gln Glu Asn Val Lys Asp Lys Leu Arg Ala Ile Val Val Thr Leu Ser Tyr Ser Leu Gln Thr Pro Arg Leu Arg Arg Gln Ala Pro Gly Gln Gly Leu Pro Pro Val Ala Pro Ile Leu Asn Ala His Gln Pro Ser Thr Gln Arg Ala Glu Ile His Phe Leu Lys Gln Gly Cys Gly Glu Asp Lys 635 Ile Cys Gln Ser Asn Leu Gln Leu Val His Ala Arg Phe Cys Thr Arg Val Ser Asp Thr Glu Phe Gln Pro Leu Pro Met Asp Val Asp

				665					670					675
Gly	Thr	Thr	Ala	Leu 680	Phe	Ala	Leu	Ser	Gly 685	Gln	Pro	Val	Ile	Gly 690
Leu	Glu	Leu	Met	Val 695	Thr	Asn	Leu	Pro	Ser 700	Asp	Pro	Ala	Gln	Pro 705
Gln	Ala	Asp	Gly	Asp 710	Asp	Ala	His	Glu	Ala 715	Gln	Leu	Leu	Val	Met 720
Leu	Pro	Asp	Ser	Leu 725	His	Tyr	Ser	Gly	Val 730	Arg	Ala	Leu	Asp	Pro 735
Ala	Glu	Lys	Pro	Leu 740	Cys	Leu	Ser	Asn	Glu 745	Asn	Ala	Ser	His	Val 750
Glu	Суз	Glu	Leu	Gly 755	Asn	Pro	Met	Lys	Arg 760	Gly	Ala	Gln	Val	Thr 765
Phe	Tyr	Leu	Ile	Leu 770	Ser	Thr	Ser	Gly	Ile 775	Ser	Ile	Glu	Thr	Thr 780
Glu	Leu	Glu	Val	Glu 785	Leu	Leu	Leu	Ala	Thr 790	Ile	Ser	Glu	Gln	Glu 795
Leu	His	Pro	Val	Ser 800	Ala	Arg	Ala	Arg	Val 805	Phe	Ile	Glu	Leu	Pro 810
Leu	Ser	Ile	Ala	Gly 815	Met	Ala	Ile	Pro	Gln 820	Gln	Leu	Phe	Phe	Ser 825
Gly	Val	Val	Arg	Gly 830	Glu	Arg	Ala	Met	Gln 835	Ser	Glu	Arg	Asp	Val 840
Gly	Ser	Lys	Val	Lys 845	Tyr	Glu	Val	Thr	Val 850	Ser	Asn	Gln	Gly	Gln 855
Ser	Leu	Arg	Thr	Leu 860	Gly	Ser	Ala	Phe	Leu 865	Asn	Ile	Met	Trp	Pro 870
His	Glu	Ile	Ala	Asn 875	Gly	Lys	Trp	Leu	Leu 880	Tyr	Pro	Met	Gln	Val 885
Glu	Leu	Glu	Gly	Gly 890	Gln	Gly	Pro	Gly	Gln 895	Lys	Gly	Leu	Cys	Ser 900
Pro	Arg	Pro	Asn	Ile 905	Leu	His	Leu	Asp	Val 910	Asp	Ser	Arg	Asp	Arg 915
Arg	Arg	Arg	Glu	Leu 920	Glu	Pro	Pro	Glu	Gln 925	Gln	Glu	Pro	Gly	Glu 930
Arg	Gln	Glu	Pro	Ser 935	Met	Ser	Trp	Trp	Pro 940	Val	Ser	Ser	Ala	Glu 945
Lys	Lys	Lys	Asn	Ile 950	Thr	Leu	Asp	Cys	Ala 955	Arg	Gly	Thr	Ala	Asn 960

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Cys Val Val Phe Ser Cys Pro Leu Tyr Ser Phe Asp Arg Ala Ala
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 Val Leu His Val Trp Gly Arg Leu Trp Asn Ser Thr Phe Leu Glu
Glu Tyr Ser Ala Val Lys Ser Leu Glu Val Ile Val Arg Ala Asn
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 Ile Thr Val Lys Ser Ser Ile Lys Asn Leu Met Leu Arg Asp Ala
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                1010
 Ser Thr Val Ile Pro Val Met Val Tyr Leu Asp Pro Met Ala Val
                1025
                                    1030
 Val Ala Glu Gly Val Pro Trp Val Ile Leu Leu Ala Val Leu
                1040
                                    1045
Ala Gly Leu Leu Val Leu Ala Leu Leu Val Leu Leu Trp Lys
                                    1060
Met Gly Phe Phe Lys Arg Ala Lys His Pro Glu Ala Thr Val Pro
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 Gln Tyr His Ala Val Lys Ile Pro Arg Glu Asp Arg Gln Gln Phe
Lys Glu Glu Lys Thr Gly Thr Ile Leu Arg Asn Asn Trp Gly Ser
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cgtactgtgt gtgtgtgcag ccgcttggtg cagtcagtct ctcgcagctg 200
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cagggaagtg gcaaacagat tgcgggactg gttcaaggcc cttcatgaaa 800
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<211> 436

<212> PRT

<213> Homo sapiens

aaaaaaaaa aaaa 1964

<400> 442

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Gly Arg Ser Asp Gly Gly Asn Phe Leu Asp Asp Lys Gln Trp Leu
35 40 45

Thr Thr Ile Ser Gln Tyr Asp Lys Glu Val Gly Gln Trp Asn Lys

				50					55					60
Phe	Arg	Asp	Glu	Val 65	Glu	Asp	Asp	Tyr	Phe 70	Arg	Thr	Trp	Ser	Pro 75
Gly	Lys	Pro	Phe	Asp 80	Gln	Ala	Leu	Asp	Pro 85	Ala	Lys	Asp	Pro	Cys 90
Leu	Lys	Met	Lys	Cys 95	Ser	Arg	His	Lys	Val 100	Cys	Ile	Ala	Gln	Asp 105
Ser	Gln	Thr	Ala	Val 110	Cys	Ile	Ser	His	Arg 115	Arg	Leu	Thr	His	Arg 120
Met	Lys	Glu	Ala	Gly 125	Val	Asp	His	Arg	Gln 130	Trp	Arg	Gly	Pro	Ile 135
Leu	Ser	Thr	Cys	Lys 140	Gln	Cys	Pro	Val	Val 145	Tyr	Pro	Ser	Pro	Val 150
Cys	Gly	Ser	Asp	Gly 155	His	Thr	Tyr	Ser	Phe 160	Gln	Cys	Lys	Leu	Glu 165
Tyr	Gln	Ala	Cys	Val 170	Leu	Gly	Lys	Gln	Ile 175	Ser	Val	Lys	Cys	Glu 180
Gly	His	Cys	Pro	Cys 185	Pro	Ser	Asp	Lys	Pro 190	Thr	Ser	Thr	Ser	Arg 195
Asn	Val	Lys	Arg	Ala 200	Cys	Ser	Asp	Leu	Glu 205	Phe	Arg	Glu	Val	Ala 210
Asn	Arg	Leu	Arg	Asp 215	Trp	Phe	Lys	Ala	Leu 220	His	Glu	Ser	Gly	Ser 225
Gln	Asn	Lys	Lys	Thr 230	Lys	Thr	Leu	Leu	Arg 235	Pro	Glu	Arg	Ser	Arg 240
Phe	Asp	Thr	Ser	Ile 245	Leu	Pro	Ile	Cys	Lys 250	Asp	Ser	Leu	Gly	Trp 255
Met	Phe	Asn	Arg	Leu 260	Asp	Thr	Asn	Tyr	Asp 265	Leu	Leu	Leu	Asp	Gln 270
Ser	Glu	Leu	Arg	Ser 275	Ile	Tyr	Leu	Asp	Lys 280	Asn	Glu	Gln	Cys	Thr 285
Lys	Ala	Phe	Phe	Asn 290	Ser	Cys	Asp	Thr	Tyr 295	Lys	Asp	Ser	Leu	Ile 300
Ser	Asn	Asn	Glu	Trp 305	Cys	Tyr	Cys	Phe	Gln 310	Arg	Gln	Gln	Asp	Pro 315
Pro	Cys	Gln	Thr	Glu 320	Leu	Ser	Asn	Ile	Gln 325	Lys	Arg	Gln	Gly	Val 330
Lys	Lys	Leu	Leu	Gly 335	Gln	Tyr	Ile	Pro	Leu 340	Cys	Asp	Glu	Asp	Gly 345

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 Cys Val Asp Arg Tyr Gly Asn Glu Val Met Gly Ser Arg Ile Asn
 Gly Val Ala Asp Cys Ala Ile Asp Phe Glu Ile Ser Gly Asp Phe
 Ala Ser Gly Asp Phe His Glu Trp Thr Asp Asp Glu Asp Asp Glu
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<211> 229

<212> PRT

<213> Homo sapiens

<400> 447

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Glu Cys Phe Tyr Gln Pro Met Pro Leu Lys Ala Ser Leu Glu Ile
50 55 60

Glu Tyr Gln Val Leu Asp Gly Ala Gly Leu Asp Ile Asp Phe His
65 70 75

Leu Ala Ser Pro Glu Gly Lys Thr Leu Val Phe Glu Gln Arg Lys 80 85 90

Ser Asp Gly Val His Thr Val Glu Thr Glu Val Gly Asp Tyr Met 95 100 105

Phe Cys Phe Asp Asn Thr Phe Ser Thr Ile Ser Glu Lys Val Ile

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	Gln	Glu	Asp	Trp	Lys 140	Lys	Tyr	Ile	Thr	Gly 145	Thr	Asp	Ile	Leu	Asp 150
	Met	Lys	Leu	Glu	Asp 155	Ile	Leu	Glu	Ser	Ile 160	Asn	Ser	Ile	Lys	Ser 165
	Arg	Leu	Ser	Lys	Ser 170	Gly	His	Ile	Gln	Ile 175	Leu	Leu	Arg	Ala	Phe 180
	Glu	Ala	Arg	Asp	Arg 185	Asn	Ile	Gln	Glu	Ser 190	Asn	Phe	Asp	Arg	Val 195
	Asn	Phe	Trp	Ser	Met 200	Val	Asn	Leu	Val	Val 205	Met	Val	Val	Val	Ser 210
	Ala	Ile	Gln	Val	Tyr 215	Met	Leu	Lys	Ser	Leu 220	Phe	Glu	Asp	Lys	Arg 225
The Mark and the M	Lys	Ser	Arg	Thr											
The state of the s	<210: <211: <212: <213: <220: <223: <400: gtcf <211: <212: <213: <220: <223: <400:	> 23 > DNI > Art > Syn > 448 agcac > 449 > 23 > DNI > Art > 23 > Art > 27 > Art > Syn > 47 > Syn > 47 > Syn > 47 > 47 > 47 > 47 > 47 > 47 > 47 > 47	A tifice of the	cial cic (	oligo gcgao Sequ oligo sequ	ca aquence	leot: ga 23 e leot:	ide p	probe	e e					
	ccag	gaag	gag d	cacg	gggaa	ag ge	gcago	ccaga	a tci	tgt	cgcc	cat	43		

A THE PRINCE OF STREET

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<212> DNA
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<212> PRT

<213> Homo sapiens

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Lys Glu Leu Pro Ser Pro Arg Ile Ser Cys Pro Lys Gly Ser Lys 35 40 45

Ala Tyr Gly Ser Pro Cys Tyr Ala Leu Phe Leu Ser Pro Lys Ser

50 55 60

Trp Met Asp Ala Asp Leu Ala Cys Gln Lys Arg Pro Ser Gly Lys
65 70 75

Leu Val Ser Val Leu Ser Gly Ala Glu Gly Ser Phe Val Ser Ser 80 85 90

Leu Val Arg Ser Ile Ser Asn Ser Tyr Ser Tyr Ile Trp Ile Gly 95 100 105

Leu His Asp Pro Thr Gln Gly Ser Glu Pro Asp Gly Asp Gly Trp
110 115 120

Glu Trp Ser Ser Thr Asp Val Met Asn Tyr Phe Ala Trp Glu Lys 125 130 135

Asn Pro Ser Thr Ile Leu Asn Pro Gly His Cys Gly Ser Leu Ser 140 145 150

Arg Ser Thr Gly Phe Leu Lys Trp Lys Asp Tyr Asn Cys Asp Ala 155 160 165

Lys Leu Pro Tyr Val Cys Lys Phe Lys Asp 170 175

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<211> 550

<212> DNA

<213> Homo sapiens

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Pro Pro Pro Leu Gly Gly Ala Ala Gly His Pro Gly Ser Ala Val 50

Ser Ala Ala Pro Gly Ile Leu Tyr Pro Gly Gly Asn Lys Tyr Gln

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 Ala Gly Val Gln Ile Cys Leu Ala Cys Arg Lys Arg Lys Arg
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 Cys Met Arg His Ala Met Cys Cys Pro Gly Asn Tyr Cys Lys Asn
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 Gly Ile Cys Val Ser Ser Asp Gln Asn His Phe Arg Gly Glu Ile
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                                      145
 Glu Glu Thr Ile Thr Glu Ser Phe Gly Asn Asp His Ser Thr Leu
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 Asp Gly Tyr Ser Arg Arg Thr Thr Leu Ser Ser Lys Met Tyr His
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 Thr Lys Gly Gln Glu Gly Ser Val Cys Leu Arg Ser Ser Asp Cys
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 Ala Ser Gly Leu Cys Cys Ala Arg His Phe Trp Ser Lys Ile Cys
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 Lys Pro Val Leu Lys Glu Gly Gln Val Cys Thr Lys His Arg Arg
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<213> Homo sapiens

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Ala Ser Ser Arg Glu Ile Arg Gln Ala Phe Lys Lys Leu Ala Leu 50 55 60

Lys Leu His Pro Asp Lys Asn Pro Asn Asn Pro Asn Ala His Gly
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Asp Leu Arg Lys Lys Tyr Asp Lys Tyr Gly Glu Lys Gly Leu Glu 95 100 105

Asp Phe Gly Ile Tyr Asp Asp Pro Glu Ile Ile Thr Leu Glu 125 130 135

Arg Arg Glu Phe Asp Ala Ala Val Asn Ser Gly Glu Leu Trp Phe 140 145 150

Val Asn Phe Tyr Ser Pro Gly Cys Ser His Cys His Asp Leu Ala 155 160 165

Pro Thr Trp Arg Asp Phe Ala Lys Glu Val Asp Gly Leu Leu Arg 170 175 180

Ile Gly Ala Val Asn Cys Gly Asp Asp Arg Met Leu Cys Arg Met 185 190 195

Lys Gly Val Asn Ser Tyr Pro Ser Leu Phe Ile Phe Arg Ser Gly

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Trp	Thr	Gly	Asn	Phe 245	Val	Asn	Ser	Ile	Gln 250		Ala	Phe	Ala	Ala 255
Gly	Ile	Gly	Trp	Leu 260	Ile	Thr	Phe	Cys	Ser 265		Gly	Gly	Asp	Cys 270
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Lys	Lys	Ile	Leu	Tyr 395	Asp	Ile	Leu	Ala	Phe 400	Ala	Lys	Glu	Ser	Val 405
Asn	Ser	His	Val	Thr 410	Thr	Leu	Gly	Pro	Gln 415	Asn	Phe	Pro	Ala	Asn 420
Asp	Lys	Glu	Pro	Trp 425	Leu	Val	Asp	Phe	Phe 430	Ala	Pro	Trp	Cys	Pro 435
Pro	Cys	Arg	Ala	Leu 440	Leu	Pro	Glu	Leu	Arg 445	Arg	Ala	Ser	Asn	Leu 450
Leu	Tyr	Gly	Gln	Leu 455	Lys	Phe	Gly	Thr	Leu 460	Asp	Cys	Thr	Val	His 465
Glu	Gly	Leu	Cys	Asn 470	Met	Tyr	Asn	Ile	Gln 475	Ala	Tyr	Pro	Thr	Thr 480
Val	Val	Phe	Asn	Gln 485	Ser	Asn	Ile	His	Glu 490	Tyr	Glu	Gly	His	His 495

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 Trp Cys His Pro Cys Gln Val Leu Met Pro Glu Trp Lys Arg Met
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 Ala Arg Thr Leu Thr Gly Leu Ile Asn Val Gly Ser Ile Asp Cys
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 Gln Gln Tyr His Ser Phe Cys Ala Gln Glu Asn Val Gln Arg Tyr
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 Tyr His Ser Tyr Asn Gly Trp Asn Arg Asp Ala Tyr Ser Leu Arg
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 Ile Trp Gly Leu Gly Phe Leu Pro Gln Val Ser Thr Asp Leu Thr
 Pro Gln Thr Phe Ser Glu Lys Val Leu Gln Gly Lys Asn His Trp
 Val Ile Asp Phe Tyr Ala Pro Trp Cys Gly Pro Cys Gln Asn Phe
 Ala Pro Glu Phe Glu Leu Leu Ala Arg Met Ile Lys Gly Lys Val
 Lys Ala Gly Lys Val Asp Cys Gln Ala Tyr Ala Gln Thr Cys Gln
 Lys Ala Gly Ile Arg Ala Tyr Pro Thr Val Lys Phe Tyr Phe Tyr
 Glu Arg Ala Lys Arg Asn Phe Gln Glu Glu Gln Ile Asn Thr Arg
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- <212> PRT
- <213> Homo sapiens
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His Gly Ile Gly Arg Gln Thr Thr Tyr Glu Phe Ala Lys Arg Gln
Ser Ile Leu Val Leu Trp Asp Ile Asn Lys Arg Gly Val Glu Glu
Thr Ala Ala Glu Cys Arg Lys Leu Gly Val Thr Ala His Ala Tyr
Val Val Asp Cys Ser Asn Arg Glu Glu Ile Tyr Arg Ser Leu Asn
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Gln Val Lys Lys Glu Val Gly Asp Val Thr Ile Val Val Asn Asn
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Ala Gly Thr Val Tyr Pro Ala Asp Leu Leu Ser Thr Lys Asp Glu
Glu Ile Thr Lys Thr Phe Glu Val Asn Ile Leu Gly His Phe Trp
Ile Thr Lys Ala Leu Leu Pro Ser Met Met Glu Arg Asn His Gly
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His Ile Val Thr Val Ala Ser Val Cys Gly His Glu Gly Ile Pro
Tyr Leu Ile Pro Tyr Cys Ser Ser Lys Phe Ala Ala Val Gly Phe
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His Arg Gly Leu Thr Ser Glu Leu Gln Ala Leu Gly Lys Thr Gly
Ile Lys Thr Ser Cys Leu Cys Pro Val Phe Val Asn Thr Gly Phe
Thr Lys Asn Pro Ser Thr Arg Leu Trp Pro Val Leu Glu Thr Asp
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Glu Val Val Arg Ser Leu Ile Asp Gly Ile Leu Thr Asn Lys Lys
                                     250
Met Ile Phe Val Pro Ser Tyr Ile Asn Ile Phe Leu Arg Leu Gln
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Lys Phe Leu Pro Glu Arg Ala Ser Ala Ile Leu Asn Arg Met Gln
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Asn Ile Gln Phe Glu Ala Val Val Gly His Lys Ile Lys Met Lys
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<sup>&</sup>lt;211> 1547

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

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Ala Ala His Phe Tyr Leu His Thr Ser Phe Ser Arg Pro His Thr 35 40 45

Gly Pro Pro Leu Pro Thr Pro Gly Pro Asp Arg Asp Arg Glu Leu 50 55 60

Thr Ala Asp Ser Asp Val Asp Glu Phe Leu Asp Lys Phe Leu Ser 65 70 75

Ala Gly Val Lys Gln Ser Asp Leu Pro Arg Lys Glu Thr Glu Gln 80 85 90

Pro Pro Ala Pro Gly Ser Met Glu Glu Ser Val Arg Gly Tyr Asp 95 100 105

Trp Ser Pro Arg Asp Ala Arg Arg Ser Pro Asp Gln Gly Arg Gln 110 115 120

Gln Ala Glu Arg Arg Ser Val Leu Arg Gly Phe Cys Ala Asn Ser 125 130 135

Ser Leu Ala Phe Pro Thr Lys Glu Arg Ala Phe Asp Asp Ile Pro 140 145 150

Asn Ser Glu Leu Ser His Leu Ile Val Asp Asp Arg His Gly Ala 155 160 165

Ile Tyr Cys Tyr Val Pro Lys Val Ala Cys Thr Asn Trp Lys Arg 170 175 180

Val Met Ile Val Leu Ser Gly Ser Leu Leu His Arg Gly Ala Pro 185 190 195

Tyr Arg Asp Pro Leu Arg Ile Pro Arg Glu His Val His Asn Ala 200 205 210

Ser Ala His Leu Thr Phe Asn Lys Phe Trp Arg Arg Tyr Gly Lys 215 220 225

Leu Ser Arg His Leu Met Lys Val Lys Leu Lys Lys Tyr Thr Lys 230 235 240

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115

110

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Gly Gln Gly Arg Pro Gly Pro Leu Ala Pro Gly Pro His Gln Val 35 40 45

Pro Leu Asp Leu Val Ser Arg Met Lys Pro Tyr Ala Arg Met Glu 50 55 60

Glu Tyr Glu Arg Asn Ile Glu Glu Met Val Ala Gln Leu Arg Asn 65 70 75

Ser Ser Glu Leu Ala Gln Arg Lys Cys Glu Val Asn Leu Gln Leu 80 85 90

Trp Met Ser Asn Lys Arg Ser Leu Ser Pro Trp Gly Tyr Ser Ile 95 100 105

Asn His Asp Pro Ser Arg Ile Pro Val Asp Leu Pro Glu Ala Arg 110 115 120

Cys Leu Cys Leu Gly Cys Val Asn Pro Phe Thr Met Gln Glu Asp 125 130 135

Arg Ser Met Val Ser Val Pro Val Phe Ser Gln Val Pro Val Arg 140 145 150

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Val Asp Val Ile Gln Glu Pro Gly Leu Ser Gly Arg Phe Phe Val Thr Thr Leu Pro Ala Phe Phe His Ala Lys Asp Gly Ile Phe Arg Arg Tyr Arg Gly Pro Gly Ile Phe Glu Asp Leu Gln Asn Tyr Ile 130 Leu Glu Lys Lys Trp Gln Ser Val Glu Pro Leu Thr Gly Trp Lys 145 Ser Pro Ala Ser Leu Thr Met Ser Gly Met Ala Gly Leu Phe Ser 155 Ile Ser Gly Lys Ile Trp His Leu His Asn Tyr Phe Thr Val Thr 170 Leu Gly Ile Pro Ala Trp Cys Ser Tyr Val Phe Phe Val Ile Ala 190 Thr Leu Val Phe Gly Leu Phe Met Gly Leu Val Leu Val Val Ile 205 Ser Glu Cys Phe Tyr Val Pro Leu Pro Arg His Leu Ser Glu Arg Ser Glu Gln Asn Arg Arg Ser Glu Glu Ala His Arg Ala Glu Gln Leu Gln Asp Ala Glu Glu Glu Lys Asp Asp Ser Asn Glu Glu Glu 250 Asn Lys Asp Ser Leu Val Asp Asp Glu Glu Lys Glu Asp Leu Gly Asp Glu Asp Glu Ala Glu Glu Glu Glu Glu Asp Asn Leu Ala Ala Gly Val Asp Glu Glu Arg Ser Glu Ala Asn Asp Gln Gly 295 300 Pro Pro Gly Glu Asp Gly Val Thr Arg Glu Glu Val Glu Pro Glu 310 Glu Ala Glu Glu Gly Ile Ser Glu Gln Pro Cys Pro Ala Asp Thr Glu Val Val Glu Asp Ser Leu Arg Gln Arg Lys Ser Gln His Ala

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Pro Asn Trp Ile Ile Tyr Glu Lys Ser Cys Tyr Leu Phe Ser Met 80 85 90

Ser Leu Asn Ser Trp Asp Gly Ser Lys Arg Gln Cys Trp Gln Leu 95 100 105

Gly Ser Asn Leu Leu Lys Ile Asp Ser Ser Asn Glu Leu Gly Phe 110 115 120

Ile Val Lys Gln Val Ser Ser Gln Pro Asp Asn Ser Phe Trp Ile 125 130 135

Gly Leu Ser Arg Pro Gln Thr Glu Val Pro Trp Leu Trp Glu Asp 140 145 150

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Leu His Tyr Lys Pro Thr Pro Asp Leu Arg Ile Ser Ile Glu Asn 50 55 60

Ser Glu Glu Ala Leu Thr Val His Ala Pro Phe Pro Ala Ala His 65 70 75

Pro Ala Ser Arg Ser Phe Pro Asp Pro Arg Gly Leu Tyr His Phe Cys Leu Tyr Trp Asn Arg His Ala Gly Arg Leu His Leu Leu Tyr Gly Lys Arg Asp Phe Leu Leu Ser Asp Lys Ala Ser Ser Leu Leu Cys Phe Gln His Gln Glu Glu Ser Leu Ala Gln Gly Pro Pro Leu 125 130 Leu Ala Thr Ser Val Thr Ser Trp Trp Ser Pro Gln Asn Ile Ser Leu Pro Ser Ala Ala Ser Phe Thr Phe Ser Phe His Ser Pro Pro 155 His Thr Ala Ala His Asn Ala Ser Val Asp Met Cys Glu Leu Lys Arg Asp Leu Gln Leu Leu Ser Gln Phe Leu Lys His Pro Gln Lys Ala Ser Arg Arg Pro Ser Ala Ala Pro Ala Ser Gln Gln Leu Gln 205 Ser Leu Glu Ser Lys Leu Thr Ser Val Arg Phe Met Gly Asp Met 215 220 Val Ser Phe Glu Glu Asp Arg Ile Asn Ala Thr Val Trp Lys Leu 235 Gln Pro Thr Ala Gly Leu Gln Asp Leu His Ile His Ser Arg Gln 250 Glu Glu Glu Ger Glu Ile Met Glu Tyr Ser Val Leu Leu Pro Arg Thr Leu Phe Gln Arg Thr Lys Gly Arg Ser Gly Glu Ala Glu 275 Lys Arg Leu Leu Val Asp Phe Ser Ser Gln Ala Leu Phe Gln 295 Asp Lys Asn Ser Ser Gln Val Leu Gly Glu Lys Val Leu Gly Ile Val Val Gln Asn Thr Lys Val Ala Asn Leu Thr Glu Pro Val Val 325 Leu Thr Phe Gln His Gln Leu Gln Pro Lys Asn Val Thr Leu Gln 335 Cys Val Phe Trp Val Glu Asp Pro Thr Leu Ser Ser Pro Gly His Trp Ser Ser Ala Gly Cys Glu Thr Val Arg Arg Glu Thr Gln Thr

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Ser	Ser	Val	Glu	Val 395	Asp	Ala	Val	His	Lys 400	His	Tyr	Leu	Ser	Leu 405
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Arg	Lys	Pro	Arg	Asp 440	Tyr	Thr	Ile	Lys	Val 445	His	Met	Asn	Leu	Leu 450
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Val	Ala	Leu	Thr	Gly 470	Ser	Glu	Ala	Gly	Cys 475	Arg	Ala	Ser	Ala	Ile 480
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Pro	His	Thr	Gln	Lys 605	Trp	Ser	His	Val	Leu 610	Thr	Leu	Leu	Gly	Leu 615
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Ala	Ser	Gly	Thr	Phe 635	Gln	Leu	Val	Val	Leu 640	Tyr	Leu	Phe	Ser	Ile 645
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<213> Homo sapiens

<400> 488

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His Glu Arg Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser 50 55 60

Pro Arg Phe Pro His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp
65 70 75

Arg Leu Val Ala Val Glu Glu Asn Val Trp Ile Gln Leu Thr Phe 80 85 90

Asp Glu Arg Phe Gly Leu Glu Asp Pro Glu Asp Asp Ile Cys Lys 95 100 105

Tyr Asp Phe Val Glu Val Glu Glu Pro Ser Asp Gly Thr Ile Leu 110 115 120

Gly Arg Trp Cys Gly Ser Gly Thr Val Pro Gly Lys Gln Ile Ser 125 130 135

Lys Gly Asn Gln Ile Arg Ile Arg Phe Val Ser Asp Glu Tyr Phe 140 145 150

Pro Ser Glu Pro Gly Phe Cys Ile His Tyr Asn Ile Val Met Pro 155 160 165

Gln Phe Thr Glu Ala Val Ser Pro Ser Val Leu Pro Pro Ser Ala 170 175 180

Leu Pro Leu Asp Leu Leu Asn Asn Ala Ile Thr Ala Phe Ser Thr
185 190 195

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   Cys Cys Leu His Asn Cys Asn Glu Cys Gln Cys Val Pro Ser Lys
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- <211> 1049
- <212> PRT
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- Pro Lys Thr Leu Pro Cys Asp Val Thr Leu Asp Val Pro Lys Asn 35 40 45
- His Val Ile Val Asp Cys Thr Asp Lys His Leu Thr Glu Ile Pro
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- Gly Gly Ile Pro Thr Asn Thr Thr Asn Leu Thr Leu Thr Ile Asn 65 70 75
- His Ile Pro Asp Ile Ser Pro Ala Ser Phe His Arg Leu Asp His 80 85 90
- Leu Val Glu Ile Asp Phe Arg Cys Asn Cys Val Pro Ile Pro Leu 95 100 105
- Gly Ser Lys Asn Asn Met Cys Ile Lys Arg Leu Gln Ile Lys Pro 110 115 120
- Arg Ser Phe Ser Gly Leu Thr Tyr Leu Lys Ser Leu Tyr Leu Asp 125 130 135
- Gly Asn Gln Leu Leu Glu Ile Pro Gln Gly Leu Pro Pro Ser Leu 140 145 150
- Gln Leu Leu Ser Leu Glu Ala Asn Asn Ile Phe Ser Ile Arg Lys 155 160 165
- Glu Asn Leu Thr Glu Leu Ala Asn Ile Glu Ile Leu Tyr Leu Gly
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- Gln Asn Cys Tyr Tyr Arg Asn Pro Cys Tyr Val Ser Tyr Ser Ile 185 190 195
- Glu Lys Asp Ala Phe Leu Asn Leu Thr Lys Leu Lys Val Leu Ser 200 205 210
- Leu Lys Asp Asn Asn Val Thr Ala Val Pro Thr Val Leu Pro Ser 215 220 225
- Thr Leu Thr Glu Leu Tyr Leu Tyr Asn Asn Met Ile Ala Lys Ile 230 235 240
- Gln Glu Asp Asp Phe Asn Asn Leu Asn Gln Leu Gln Ile Leu Asp 245 250 255

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Ser	Pro	Leu	His	Asn 395	Leu	Gln	Asn	Leu	Glu 400	Val	Leu	Asp	Leu	Gly 405
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Asp Pro Ala Val Thr Glu Trp Val Leu Ala Glu Leu Val Ala Lys
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Gln Arg Leu Met Asp Glu Lys Val Asp Val Ile Ile Leu Ile Phe
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Arg Leu Cys Gly Ser Ser Val Leu Glu Trp Pro Thr Asn Pro Gln
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<212> DNA

<213> Homo sapiens

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<sup>&</sup>lt;211> 1041

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<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 498

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Ser Arg Ser Tyr Pro Cys Asp Glu Lys Lys Gln Asn Asp Ser Val 35 40 45

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Ile	Lys	Gln	Ile	Asp 410	Phe	Lys	Leu	Phe	Gln 415	Asn	Phe	Ser	Asn	Leu 420
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Asp	Thr	Arg	Gln	Ser 440	Tyr	Ala	Asn	Ser	Ser 445	Ser	Phe	Gln	Arg	His 450
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<sup>&</sup>lt;211> 273

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 506

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 Cys Ala Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val
Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg
Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg
Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro
Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala
Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro
Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln
Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln
Arg Cys Ile Asn Thr Ala Gly Ser Tyr Trp Cys Gln Cys Trp Glu
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Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys Val Pro Lys Gly
                                     175
Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Val Asp Ser Ala
Met Lys Glu Glu Val Gln Arg Leu Gln Ser Arg Val Asp Leu Leu
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Glu Glu Lys Leu Gln Leu Val Leu Ala Pro Leu His Ser Leu Ala
Ser Gln Ala Leu Glu His Gly Leu Pro Asp Pro Gly Ser Leu Leu
Val His Ser Phe Gln Gln Leu Gly Arg Ile Asp Ser Leu Ser Glu
Gln Ile Ser Phe Leu Glu Glu Gln Leu Gly Ser Cys Ser Cys Lys
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Lys Asp Ser

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<sup>&</sup>lt;213> Homo sapiens

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- <211> 273
- <212> PRT
- <213> Homo sapiens

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- Cys Ala Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val
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- Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg
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- Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg
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- Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro 80 85 90
- Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala 95 100 105
- Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro 110 115 120
- Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln 125 130 135
- Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln 140 145 150
- Arg Cys Ile Asn Thr Ala Gly Ser Tyr Trp Cys Gln Cys Trp Glu 155 160 165
- Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys Val Pro Lys Gly 170 175 180
- Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Val Asp Ser Ala 185 190 195
- Met Lys Glu Glu Val Gln Arg Leu Gln Ser Arg Val Asp Leu Leu 200 205 210

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Lys Asp Ser

<210> 509

<211> 1538

<212> DNA

<213> Homo sapiens

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<211> 273

<212> PRT

<213> Homo sapiens

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Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg 50~ 55~ 60  $\,$ 

Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg 65 70 75

Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro 80 85 90

Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala 95 100 105

Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro 110 115 120

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<223> Synthetic oligonucleotide probe

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<211> 364

<212> PRT

<213> Homo sapiens

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Met Ala Arg Gln Lys Gly Ile Phe Tyr Leu Thr Leu Phe Leu Ile 35 40 45

Leu Gly Thr Cys Thr Leu Phe Phe Ala Phe Glu Cys Arg Tyr Leu 50 55 60

Ala Val Gln Leu Ser Pro Ala Ile Pro Val Phe Ala Ala Met Leu 65 70 75

Phe Leu Phe Ser Met Ala Thr Leu Leu Arg Thr Ser Phe Ser Asp 80 85 90

Pro Gly Val Ile Pro Arg Ala Leu Pro Asp Glu Ala Ala Phe Ile 95 100 105

Glu Met Glu Ile Glu Ala Thr Asn Gly Ala Val Pro Gln Gly Gln 110 115 120

Arg Pro Pro Pro Arg Ile Lys Asn Phe Gln Ile Asn Asn Gln Ile
125 130

Val Lys Leu Lys Tyr Cys Tyr Thr Cys Lys Ile Phe Arg Pro Pro 140 145 150

Arg Ala Ser His Cys Ser Ile Cys Asp Asn Cys Val Glu Arg Phe 155 160 165

Asp His His Cys Pro Trp Val Gly Asn Cys Val Gly Lys Arg Asn 170 175 180

Tyr Arg Tyr Phe Tyr Leu Phe Ile Leu Ser Leu Ser Leu Leu Thr
185

Ile Tyr Val Phe Ala Phe Asn Ile Val Tyr Val Ala Leu Lys Ser 200 205 210

Leu Lys Ile Gly Phe Leu Glu Thr Leu Lys Glu Thr Pro Gly Thr

Val Leu Glu Val Leu Ile Cys Phe Phe Thr Leu Trp Ser Val Val

230 235 240 Gly Leu Thr Gly Phe His Thr Phe Leu Val Ala Leu Asn Gln Thr 245 250 Thr Asn Glu Asp Ile Lys Gly Ser Trp Thr Gly Lys Asn Arg Val 260 270 Gln Asn Pro Tyr Ser His Gly Asn Ile Val Lys Asn Cys Cys Glu 280 Val Leu Cys Gly Pro Leu Pro Pro Ser Val Leu Asp Arg Gly 290 295 300 Ile Leu Pro Leu Glu Glu Ser Gly Ser Arg Pro Pro Ser Thr Gln 305 310 Glu Thr Ser Ser Ser Leu Leu Pro Gln Ser Pro Ala Pro Thr Glu 320 325 His Leu Asn Ser Asn Glu Met Pro Glu Asp Ser Ser Thr Pro Glu 335 Glu Met Pro Pro Glu Pro Pro Glu Pro Pro Gln Glu Ala Ala 350 Glu Ala Glu Lys <210> 516 <211> 255 <212> DNA <213> Homo sapiens <220> <221> unsure <222> 36, 38, 88, 118, 135, 193, 213, 222 <223> unknown base <400> 516 aaaaccctgt attttttaca atgcaaatag acaatnancc tggaggtctt 50 tgaattaggt attataggga tggtggggtt gatttttntt cctggaggct 100 tttggctttg gactctcnct ttctcccaca gagcncttcg accatcactg 150 cccctgggtg gggaattgtg ttggaaagag gaactaccgc tanttctacc 200 tetteateet ttntetetee enceteacaa tetatgtett egeetteaac 250 atcgt 255 <210> 517 <211> 24

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Met Met Val Arg Lys Gly Asp Thr Ala Val Leu Arg Cys Tyr Leu 50 55 60

Glu Asp Gly Ala Ser Lys Gly Ala Trp Leu Asn Arg Ser Ser Ile
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Ile Phe Ala Gly Gly Asp Lys Trp Ser Val Asp Pro Arg Val Ser 80 85 90

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Val Asp Val Thr Asp Asp Gly Pro Tyr Thr Cys Ser Val Gln Thr
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Gln His Thr Pro Arg Thr Met Gln Val His Leu Thr Val Gln Val 125 130 135

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Gly Thr Asn Val Thr Leu Thr Cys Leu Ala Thr Gly Lys Pro Glu 155 160 165

Pro Ser Ile Ser Trp Arg His Ile Ser Pro Ser Ala Lys Pro Phe 170 175 180

Glu Asn Gly Gln Tyr Leu Asp Ile Tyr Gly Ile Thr Arg Asp Gln
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Ala Gly Glu Tyr Glu Cys Ser Ala Glu Asn Ala Val Ser Phe Pro 200 205 210

Asp Val Arg Lys Val Lys Val Val Val Asn Phe Ala Pro Thr Ile 215 220 225

Gln Glu Ile Lys Ser Gly Thr Val Thr Pro Gly Arg Ser Gly Leu

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   Val Leu Glu Met Tyr Phe Leu Asn Asp Thr Leu Ala Glu Asp
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l-à
  Gly Ala Pro Gly Pro Pro Pro Ala Glu Lys Gly Ala Lys
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  Gly Pro Pro Gly Val Lys Gly Glu Ala Gly Leu Gln Gly Pro Gln
Gly Ala Pro Gly Lys Gln Gly Ala Thr Gly Thr Pro Gly Pro Gln
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Gly Glu Lys Gly Ser Lys Gly Asp Gly Gly Leu Ile Gly Pro Lys
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  Gly Ser Lys Gly Asp Arg Gly Met Lys Gly Asp Ala Gly Val Met
  Gly Pro Pro Gly Ala Gln Gly Ser Lys Gly Asp Phe Gly Arg Pro
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50 55 60

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  Ser Asn Glu Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala
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ļ.š
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